

ALCOHOL AND OTHER DRUG USE AND  
LIFE SATISFACTION AMONG  
INTRAMURAL SPORT PARTICIPANTS

By

ROBERT R. LINDSEY

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INTRAMURAL SPORT PARTICIPANTS

By

Robert R. Lindsey

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Chairman: Wei William Chen

Major Department: Health and Human Performance

Alcohol and other drug use is a major problem on today's college campuses

Almost all college students have used alcohol or other drugs at some time. Reasons for alcohol and other drug use include to have fun, to relieve academic stress, to relieve other types of stress, to ease social interactions and to fit in with friends. Given the stressors that college students have to deal with, recreational activity may be a means of decreasing alcohol use among college students. Participation in recreational/intramural sports may lead to a decrease in alcohol and other drug use as well as contribute to a greater life satisfaction among college students, and especially intramural sport participants.

Research has shown conflicting results concerning the relationship between sport participation and alcohol and other drug use. Therefore, the purpose of this study was to

1) compare the frequency, quantity, and reasons for alcohol and other drug use between intramural and non-intramural sport participants, 2) compare the perceptions of reported life satisfaction between intramural and non-intramural sport participants, and 3) examine the relationship between alcohol and other drug usage and perceptions of life satisfaction among intramural sport participants.

The subjects were 719 students from personal and family health and medical terminology courses from a large southeastern university. Alcohol and other drug use was measured with the CORE Alcohol and Drug Survey. Life Satisfaction was measured with the Satisfaction with Life Scale.

Chi-square analysis, t-tests, and analysis of variance were used to test for significant differences for the research hypotheses. The findings from the study include 1) intramural sport participants reported more binge drinking episodes and a higher weekly consumption of alcohol when compared to non-intramural sport participants, 2) there were no significant differences of current alcohol users between intramural and non-intramural sport participants, 3) there were no significant differences in the usage of cigarettes, marijuana, cocaine, and inhalants between intramural and non-intramural sport participants, 4) there were no significant differences in the reasons for alcohol and other drug usage between intramural and non-intramural sport participants, 5) intramural sport participants reported a significantly higher life satisfaction compared to non-intramural sport participants, and 6) there was no consistent relationship between the pattern of alcohol and other usage and life satisfaction among intramural sport participants.



The researcher concluded that intramural sport participation influenced binge drinking and weekly consumption of alcohol. On the other hand, intramural sport participation did not significantly influence other drug use. In addition, intramural sport participation also influenced the perception of life satisfaction. More studies are needed to examine the relationship of alcohol and other drug use and life satisfaction among intramural sport participants.

## CHAPTER 1 INTRODUCTION

More than 12 million students are currently enrolled in the nation's 3,600 colleges and universities. Of these students, approximately 7.1 million are aged 18-24 years, comprising 57% of the college population. Of all persons aged 18-24 years in the United States, one fourth are currently either full- or part-time college students. Therefore, colleges and universities are important settings for reducing important health-risk behaviors among many young adults (Douglas et al., 1997).

The use and abuse of alcohol and drugs on campus is an enduring problem. Experimentation with these substances has been generally regarded as a rite of passage (Wechsler & Isaac, 1992; Bower & Martin, 1999). Although the use of illicit drugs such as marijuana, LSD, and heroin continues on college campuses, the Commission on Substance Abuse at Colleges and Universities found that alcohol abuse is the most urgent and most complicated substance abuse problem in colleges (Bower & Martin., 1999). Recent reports indicate that the percentage of college students who use alcohol is 2.5 times the percentage of those who smoke or use illegal drugs (Wechsler, 1996).

Almost all college students (84-93%) reported having consumed alcohol at some time (Wechsler, 1996). Although this percentage has remained nearly the same for many years, the number of students who report binge drinking (i.e., consuming five or more drinks in one sitting) has shown a marked increase. Eigen (1991) found that 42% of all college students reported engaging in binge drinking in the 2 weeks preceding

participation in the study. This level of drinking is supported by Wechsler's findings that 44% of all college students are binge drinkers and 19% can be considered frequent bingers, having engaged in binge drinking three or more times in the 2 weeks before the Wechsler study.

In 1995, the National College Health Risk Behavior Survey (NCHRBBS) was implemented. The 1995 NCHRBBS was built on previous surveys of health risk behaviors among college students by assessing in one questionnaire a broad range of health risk behaviors that contribute to the leading causes of mortality and morbidity of young people. Some of their findings included that among all students, 42% engaged in current frequent alcohol use (defined as having a drink of alcohol on more than 20 of the 30 days prior to completing the survey). Male students were significantly more likely than female students, and White students were significantly more likely than Black or Hispanic students to be current frequent users of alcohol (Douglas et al., 1997). About one third (34.5%) of all students reported current episodic heavy drinking (consuming five or more drinks of alcohol on at least one occasion during the 30 days preceding the survey). Nearly half of all the students (48.7%) had used marijuana during their lifetimes, and 14.0% had used marijuana during the past 30 days preceding the survey. Almost one third (31.3%) of the students had smoked cigarettes daily (at least one cigarette every day for 30 days) at some time during their lifetimes, and 14.4% had used cocaine at some time during their lifetimes (Douglas et al., 1997).

From a health education and promotion standpoint, it is important to understand why college students use alcohol and other drugs. The college experience has been characterized as a period of transition in which students prepare for independent living.

Students are presented with challenges to stimulate the mind and to develop the mind, body, and spirit, all of which have been identified as integral to successful student development (Kanters & Forrester, 1997). Studies have shown that some of the reasons why college students use alcohol and other drugs include to have fun, to relieve academic stress, to relieve other types of stress, to ease social interactions, to get high or drunk, to enhance sex, and to fit in with friends (CADRC, 1999).

Additional findings from the studies of alcohol and other drug usage have found that there are consequences to this behavior, and many of them have implications within the academic setting. Some of these consequences include poor test scores, missing classes, hangovers, experiencing memory loss, arguments and fights, driving while intoxicated, having unplanned and unprotected sex, and having trouble with the police. Wechsler, Dowdall, Maenner, Gledhill-Hoyt, and Lee (1998) found information on alcohol-related consequences, including frequent binge drinkers (defined as those who had binge drunk three or more times in the past two weeks) encountered specific types of alcohol related problems: 58.9% were injured, 58.8% damaged property, 58.4% had trouble with the police, 53.9% fell behind in their school work, 53.8% missed class, 52.3% experienced blackouts and had unprotected sex, and 49.7% had unplanned sex.

Given the stressors that college students have to deal with, having some kind of recreational activity may be an excellent means of decreasing alcohol and other drug use as well as relieving stress (Carruthers & Hood, 1992). One trackable means of recreational activity is intramural sports. The goal of intramural sports is to provide an opportunity for individuals to be able to participate without concern for winning or losing (Sattler, Graham, & Bailey, 1978). Intramural sports are especially common at the junior

high, high school and college levels (Mueller & Reznik, 1979), and offer benefits to those who participate. First, intramural sports are important because they provide individuals with a means of obtaining physical activity, and as a result, the possibility of bettering their physical conditioning (Mueller & Reznik, 1979). Second, physical fitness has direct moral implications. According to Sattler et al. (1978), individuals who are more physically fit will also be better prepared mentally and spiritually. Third, intramural sports are fun and enhance social skills. Means (1973) states that through participation in intramural sports individuals can learn the social values of competition. These social values include sportsmanship, compatibility, relaxation, and the benefits of long-term activity.

Two of the more recent studies involving recreational sports participation were done by Smith and Missler (1994) and Bourgeois, LeUnes, Burkett, Dragges-Bourgeois, Friend, & Meyers (1995). Smith & Missler (1994) investigated the personal meaning of intramural sport participation by assessing the motivations of intramural softball participants. Their findings show that the number one reason for continued involvement in intramural recreational sports was "having fun." Their most significant differences on why student chose to participate were between male and female students. According to their study, males participate in intramural recreational sports with a competitive attitude. This competitive attitude manifests itself in their desire to dominate an opponent, win, and show off their skills. Alternatively, females appear to participate with a more cooperative attitude. Females reported participation in intramural recreational sports for reasons of health, fitness, social benefits, and experiencing nature. It was evident from this study that male and advanced players embraced the competitive model toward

participation, while females and beginners valued the cooperative model (Smith & Missler, 1994).

Bourgeois et al. (1995) examined factors influencing intramural recreational sport participation by questioning 237 volunteers from an introductory psychology class. Their study concluded that intramural recreational sports can serve as a means for students to meet their needs for power and success, for fulfilling the need for psychological and physical well-being, and perhaps to provide a more well-rounded collegiate experience (Bourgeois et al., 1995).

Recreational sports has received increased attention on college campuses across the United States as issues of recruitment, retention and student satisfaction have emerged as institutional priorities. Banta, Bradley, & Bryant (1991) indicated that recreational sport facilities and programs serve as recruiting highlights, enhance overall satisfaction with the collegiate experience and make positive contributions to an institution's retention efforts. Research concerning the beneficial effects of participation in out-of-class activities consistently identifies such involvement with greater satisfaction of college choice and an increased likelihood of persistence (retention). Participation in extracurricular interest groups, publications, teams and residential societies have been shown to have a major impact on the emotional, moral, social, physical, and intellectual abilities of their student members (Miller & Jones, 1981).

Kovac and Beck (1997) investigated student perceptions and life satisfaction of recreational sport services. Their results included that students reported being generally satisfied with their recreational sport experiences, felt the availability of recreation facilities and programs was an important factor in deciding to attend and continue at an

institution; and perceived that participation in recreational activities provided individual benefits in terms of fitness, feelings of physical well-being, sense of accomplishment, stress reduction and physical strength. Primarily through participation in open recreation activities and supporting services, recreational sports produced the highest levels of student participation and satisfaction in all aspects of campus life.

Life satisfaction is also a component that can be important in college student lives. Life satisfaction is defined as a “global assessment of a person’s quality of life according to his chosen criteria” (Shin & Johnson, 1978, p. 478). It is important to point out that the judgment of how satisfied people are with their present state of affairs is based on a comparison with a standard which each individual sets for himself or herself. For example, good health behavior may be stated as a desirable component by college students, but different individuals may place different values on it. Therefore, it is important to ask people for an overall evaluation of their lives, especially college students, to assess their overall perception of personal life satisfaction.

Theoretically, participation in intramural/recreational sports can be analogous to participating in the athletic environment. Participation in sports traditionally has been regarded as a means of encouraging the development of healthy habits and deterring young people from risky behaviors. A report from the President’s Council on Physical Fitness and Sports stated that by participating in athletics, young people will be less likely to get involved with drugs and alcohol (Vidmar, 1992). A study by Escobedo, Marcus, Holtzman, & Giovina (1993) found sports participation to be associated with lower rates of regular and heavy smoking among adolescents. Smoking at a young age was also reported to be more likely to occur in adolescents who did not participate in

interscholastic sports. A more recent longitudinal study found that female athletes were nearly three times less likely to report cigarette use than non-athletes (Skolnick, 1993). Page, Hammermeister, Scanlan, and Gilbert (1998) found that male and female students who reported participating on one or two teams and three or more teams were significantly more likely to report not having engaged in cigarette smoking and illegal drug use than those not playing on any sports teams.

There is an abundance of literature on alcohol and other drug usage among college students, but limited literature on sports participation and alcohol and drug usage. It would be beneficial to investigate the frequency, prevalence, and consequences of alcohol and other drugs among intramural sport participants, a population within the college student environment. Another benefit to this study is that it will investigate the concept of life satisfaction among intramural sport participants. Furthermore, studying the relationship of alcohol and other drug usage and life satisfaction among intramural sport participants can demonstrate if intramural sport participation has had any impact in curbing alcohol and other drug use while increasing life satisfaction among this population.

#### Problem Statement

Alcohol and other drug use is a serious problem for college students. Several studies have assessed alcohol, tobacco, and other drug use among national samples of college students. These studies include the Monitoring the Future Study, Core Alcohol and Drug Study, and Wechsler's College Alcohol Study (Johnston, O'Malley & Bachman, 1996, Presley, Meilman, & Lyerla, 1996, Wechsler et al., 1998). However,



few studies have examined the relationship between intramural sports participation and alcohol and other drug usage among college students.

Intramural sports can provide college students a means of an alternative to alcohol and other drug use. The goal of intramural sports is to provide an opportunity for individuals to be able to participate without any concern for winning or losing. Intramural sports is important to college students because they can provide individuals the opportunity of obtaining physical activity, bettering their physical conditioning, and having fun (Mueller et al, 1979; Sattler et al., 1978; Means, 1973).

Several studies have addressed the relationship between recreation participation and alcohol use (Swisher & Hu, 1983; Scarinci, 1994). Swisher and Hu (1983) found that participation in sports was associated with less use of marijuana and depressants, hallucinogens and stimulants, and with more use of beer. Scarinci (1994) reported that outdoor recreation and sports participation were found to have a significant relationship with alcohol consumption. However, few studies have looked at the extent of alcohol and other drug use among intramural sport participants.

Some studies have addressed life satisfaction and substance abuse behaviors (Clark & Kirisci, 1996; Newcomb, Bentler, & Collins, 1986; Zullig, Valois, Drane, & Huebner, 1999). In Clark & Kirisci (1996), life satisfaction was reserved for a single domain of quality of life, psychological functioning, and measured by the interviewers on a four-point scale from "always satisfied" to "never satisfied" in its relationship to posttraumatic stress disorder and anxiety. The other quality of life domains in this study were physical functioning, social functioning, and role functioning. These are all individual, subjective measures of quality of life, but they fail to differentiate between

other specific domains that have been demonstrated to be important to children such as family, friends, school, and living environment.

The study by Newcomb et al. (1986) made direct, causal links between alcohol use and some of the life satisfaction domains (self, peer relationships, future life opportunities, and global perceived environment), but reserved its conclusions only for alcohol. They also found that early alcohol use did not directly affect later dissatisfaction with future opportunity, however, early dissatisfaction caused a direct, but small, increase in young adult alcohol use.

Zullig et al. (1999) examined the relationship between selected substance abuse behaviors and perceptions of life satisfaction among public high school students. While examining the relationship between reported life satisfaction and other selected substance use behaviors, they found that inhalant use, thirty day prevalence of smoking cigarettes, and life cocaine use were the top three risk behaviors that were most significantly related to reported life satisfaction.

The literature has shown that alcohol use has been found to be predictive of reduced life satisfaction among public high school adolescents (Newcomb et al., 1986; Zullig et al., 1999). In addition, marijuana, cocaine, cigarettes, and steroids have also been associated with reduced life satisfaction among high school adolescents (Zullig et al., 1999). Although there have been studies which have examined satisfaction in recreational sports in regards to participation, there have been no studies which have examined the extent of alcohol and other drug use among intramural and non-intramural sport participants as well as the relationship of life satisfaction and alcohol and other drug use. Therefore, this study was designed to 1) compare the extent of alcohol and other

drug use among intramural and non-intramural sport participants, and 2) compare the perceptions of reported life satisfaction between intramural and non-intramural sport participants, and 3) examine the relationship between alcohol and other drugs and life satisfaction among intramural sport participants.

#### Purpose of the Study

The purpose of this study was to 1) compare the frequency, quantity, and reasons for alcohol and other drug use between intramural and non-intramural sport participants, 2) compare the perceptions of reported life satisfaction between intramural and non-intramural sport participants, and 3) examine the relationship between alcohol and other drug usage and perceptions of life satisfaction among intramural sport participants.

#### Significance of the Study

Alcohol and other drug use is high among college students, a behavior that is a major concern to health educators. Participation in intramural sports may be beneficial to help alleviate the problems and alcohol and drug use. This study will help investigate the relationship between alcohol and other drug use and life satisfaction among the college student population. It is important to examine the relationship between recreation participation and alcohol and other drug use to establish if recreational activity has any value in the prevention of alcohol and drug abuse.

In addition, it is also important to examine whether intramural sport participation contributes to life satisfaction. Ideally, intramural sport participation should be helpful in reducing alcohol and other drug use and increasing the global perception of life satisfaction among college students. This study may also be an asset to substance abuse

prevention and intervention programs. Ingalls (1982) suggested that the most successful substance abuse programs include some kind of recreational activity.

#### Delimitations of the Study

This study was subject to the following delimitations:

1. The subjects were undergraduate university students.
2. The subject pool were selected from a single large southeastern university.
3. The study were delimited to 2 categories, intramural and non-intramural sport participants.
4. The data was collected by the investigator during the Spring semester of the year 2000.

#### Limitations of the Study

This study was limited to the following factors:

1. This study was limited to the examination of alcohol and other drug use and its relationship to life satisfaction at this institution.
2. This study was limited to the behaviors and consequences of alcohol and other drugs found on the CORE survey instrument.
3. This study's findings were limited to the students at this institution, who stated that they did or did not participate in intramural sports.
4. The mood and temperament of the students at the time of the survey could possibly affect the students' willingness to respond honestly and completely.

### Assumptions of the Study

This study was based on the following assumptions:

1. The subjects surveyed were representative of the university's undergraduate student population. It was assumed that a cross-section of students with a wide variety of academic majors and ethnic backgrounds was represented.
2. It was assumed that the subjects in the study were honest in reporting the frequency and any problems they experienced as a result of alcohol and other drug use.
3. It was assumed that the CORE Alcohol and Other Drug Usage and the Life Satisfaction Survey instruments were reliable and valid.

### Hypotheses

This study was designed to test the following hypotheses in regards to alcohol and other drug use, life satisfaction, and the relationship between alcohol and other drug use and life satisfaction.

1. There is no difference in alcohol use between intramural and non-intramural sport participants.
  - a) There is no difference in the frequency of binge drinking episodes between intramural and non-intramural sport participants.
  - b) There is no difference in the average number of drinks between intramural and non-intramural sport participants
  - c) There is no difference in the frequency of alcohol use between intramural and non-intramural sport participants.

2. There is no difference in frequency of other drug use between intramural and non-intramural sport participants.
  - a) There is no difference in the frequency of cigarette use between intramural and non-intramural sport participants.
  - b) There is no difference in the frequency of marijuana use between intramural and non-intramural sport participants.
  - c) There is no difference in the frequency of cocaine use between intramural and non-intramural sport participants.
  - d) There is no difference in the frequency of inhalant use between intramural and non-intramural sport participants.
3. There is no difference in the percentage of reasons for alcohol and other drug use between intramural and non-intramural sport participants.
4. There is no difference in reported life satisfaction between intramural and non-intramural sport participants.
5. There is no significant relationship between alcohol and other drug use and life satisfaction among intramural sport participants.

#### Definition of Terms

For the purpose of this study, the following definitions were used.

Alcohol. Alcohol is a substance which affects physical and cognitive functioning and includes beer, wine, and hard liquors.

Alcohol abuse. Alcohol abuse is a maladaptive pattern of use manifested by recurrent and significant adverse consequences related to the repeated use of alcohol.

Average number of drinks. The average number of drinks consumed in one week.

Binge drinking. Binge drinking is defined as five or more drinks in one sitting. For male students, it is defined as those who have consumed  $\geq 5$  drinks of alcohol in a row and female students who have consumed  $\geq 4$  in a row in one sitting.

Consequences of use. Consequences of use are the behavioral effects resulting from the use of alcohol or other drugs and reported by the user.

Current alcohol use. Defined as at least one drink of alcohol during the 30 days preceding the survey.

Current cigarette use. Defined as smoking a cigarette on more than 1 of the 30 days preceding the survey.

Current episodic heavy drinking. Defined as having five or more drinks of alcohol on at least one occasion during the 30 days preceding the survey.

Current frequent alcohol use. Defined as at least one drink of alcohol on more than 20 of the 30 days preceding the survey.

Current inhalant use. Defined as either sniffing glue, breathing the contents of aerosol or spray cans, or inhaled any paints or sprays to get high at least once during the 30 days preceding the survey.

Current marijuana use. Defined as using marijuana at least once during the 30 days preceding the survey.

Drink. A drink is defined as a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink).

Intramural recreational sports. Intramural sports consist of structured leagues and/or tournaments requiring design and external leadership (Mull, Bayless & Ross, 1987). The word intramural is a combination of two Latin words, "intra" meaning

within and “muralis” meaning wall (Bourgeois et al., 1995). Examples include college intramural sports such as softball, basketball, flag football, wallyball, volleyball, racquetball, tennis, and so on; community sponsored leagues such as softball, volleyball, tennis, soccer, and so on; and/or commercial sponsored leagues such as bowling, volleyball, racquetball, tennis, and so on.

Life satisfaction. Defined as a “global assessment of a person’s quality of life according to his chosen criteria” (Shin & Johnson, 1978, p. 478).

Lifetime alcohol use. Defined as at least one drink of alcohol in a person’s lifetime.

Lifetime cigarette use. Defined as smoking a cigarette at least once during their lifetime.

Lifetime cocaine use. Defined as using some form of cocaine at least once during their lifetime.

Lifetime inhalant use. Defined as either sniffing glue, breathing the contents of aerosol or spray cans, or inhaled any paints or sprays to get high at least once during their lifetime.

Lifetime marijuana use. Defined as using marijuana at least once during their lifetime

Recreational sports. Recreational sports are defined as sport activity for the pure sake of participation and fun (Mull, Bayless, & Ross, 1987). For the purpose of this study, one category of recreational sports will be examined, intramural recreational sports.



## CHAPTER 2

### LITERATURE REVIEW

The literature related to alcohol and other drug usage in regards to college students is reported in this chapter. In addition, research on information regarding intramural sport participation is reported, as well as information regarding life satisfaction and substance use behaviors. For organizational purposes, the literature is presented under the following main topics:

- 1) Alcohol and Other Drug Usage among College Students
- 2) Consequences of Alcohol and Other Drug Use
- 3) Reasons for Alcohol and Other Drug Use among College Students
- 4) Alcohol and Other Drug Use to Cope with Pressure
- 5) Intramural and Recreation Sports as Alternatives for Alcohol and Other Drug Use
- 6) Participation and Motivation Factors in Intramural/Recreational Sports
- 7) Recreation Sports as a Coping Mechanism for Alcohol and Other Drug Use
- 8) Sport Participation and Healthy Behavior among College Students
- 9) Attitudes Toward and Reasons for Alcohol Use among Athletes
- 10) Life Satisfaction
- 11) Student Satisfaction and Perceptions in Recreational Sports
- 12) Life Satisfaction and Alcohol and Other Drug Use
- 13) Summary

### Alcohol and Other Drug Usage Among College Students

Health promotion attempts to promote adaptations and adjustments in individuals and communities to encourage maintenance and improvement of health for whole populations, usually by applying wellness principles to organizations and institutions that are conducive to health. Health promotion can take place in a variety of settings utilizing a variety of strategies. An important setting where health educators can deliver health promotion strategies are at our nations academic institutions. Colleges and universities are ideal settings for delivering health promotion programs and services. More than 12 million students are currently enrolled in the nation's 3,600 colleges and universities. Of these students, approximately 7.1 million are aged 18-24 years, comprising 57% of the college population. Of all persons aged 18-24 years in the United States, one fourth are currently either full- or part-time college students. Therefore, colleges and universities are important settings for reducing important health-risk behaviors among many young adults (Douglas et al., 1997).

The use and abuse of alcohol and other drugs on campus is an enduring problem. Experimentation with these substances has been generally regarded as a rite of passage (Bower & Martin, 1999; Wechsler & Isaac, 1992). Although the use of illicit drugs, such as marijuana, LSD, and heroin, continues on college campuses, the Commission of Substance Abuse at Colleges and Universities found that alcohol abuse is the most urgent and most complicated substance abuse problem in colleges (Bower & Martin, 1999).

Several studies have assessed alcohol, tobacco, other drug use, and sexual aggression using national samples of college students. One important study is called the Monitoring the Future study. Since 1980, Monitoring the Future has conducted annual

follow-up surveys of American high school seniors as they become 19 to 22 years of age and enroll full time in 2- or 4- year colleges and universities. Monitoring the Future measures tobacco, alcohol, marijuana, inhalant, stimulant, cocaine and other drug use (Johnston et al., 1996). In 1994, 52% of male and 31% of female college students reported consuming five or more drinks of alcohol in a row on at least one occasion during the 2 weeks preceding the survey. In addition, 24% of male and 23% of female college students reported smoking cigarettes, 20% of male and 12% of female college students reported using marijuana during the 30 days preceding the survey.

In 1997, Wechsler, Davenport, Dowdall, Grossman, & Zanakos (1997) examined the nature and extent of binge drinking among a national sample of students in 4-year colleges and universities. Their findings were consistent with the results of the Monitoring the Future Survey: 50% of college men and 39% of college women were binge drinkers (defined as male students who consumed  $\geq 5$  drinks of alcohol in a row and female students who consumed  $\geq 4$  in a row during the 2 weeks preceding the survey). Other findings included 45% of the students who were under the age of 21 had reported binge drinking. Among the different ethnicities, the highest rate of binge drinking was in Whites at 48.1%, followed by Hispanics at 38.5%, then Asian/Pacific Islander (21.9%) and Blacks (16.5%). Sixty-seven percent of the students who were involved in a fraternity or sorority reported binge drinking.

Wechsler et al. (1998) resurveyed and found that 42.7% of the respondents to the survey had reported binge drinking in the past two weeks. Comparison by gender indicated 48.4% of the males and 38.9% of the females had reported this behavior. Students also reported that within the past 12 months, 80.7% had used alcohol, 39.2%

had used cigarettes, and 27.5% has used marijuana. By ethnicity, Whites still had the highest rate of binge drinking (46.8%) followed by Hispanics (37.6%), Asian/Pacific Islander (24.9%), and Blacks (18.3%). Sixty-five percent of those who were involved in a fraternity or sorority reported binge drinking. The information by age found that students under the age of 24 years had reported binge drinking 45.5% as compared to 28.5% who were over the age of 24 years.

The Core Alcohol and Drug Survey is used by institutions funded by the US Department of Education's Fund for the Improvement of Postsecondary Education (FIPSE) (Presley et al., 1996). In 78 FIPSE funded surveys at 2- and 4-year colleges and universities during 1989 to 1991, 51% of male and 35% of female college students reported binge drinking ( $\geq 5$  drinks of alcohol in one sitting during the 2 weeks preceding the survey). Tobacco use was reported by 46% of male and 36% of female college students, and marijuana use by 30% of men and 24% of women during the 12 months preceding the survey.

More recent data from the 1996 Core Alcohol and Drug Survey has shown that within the past year prior to completing the survey, 82.8% of the students reported using alcohol, 44.4% cigarettes, and 31.3% marijuana. Within the 30 days prior to completing the survey, 69.7% of the respondents reported using alcohol, 34.2% tobacco, and 18.6% marijuana. Overall, the average number of drinks consumed by the students in the sample was 5.1 per week. For binge drinking, 41.7% of the students engaged in binge drinking at least once in the 2 weeks prior to completing the survey. Of the 46,616 students who reported being under the age of 21 years, 82.4% reported using alcohol within the year prior to completing the survey, and 68.8% reported using alcohol within

the 30 days prior to completing the survey. Other drug usage included hallucinogens, cocaine, and amphetamines. In the 30 days prior to completing the survey, 3.1% reported using amphetamines, 2.7% hallucinogens, and 1.6% cocaine (Core Institute, 1998).

In 1995, the National College Health Risk Behavior Survey (NCHRBBS) was implemented. The 1995 NCHRBBS was built on previous surveys of health risk behaviors among college students by assessing in one questionnaire a broad range of health risk behaviors that contribute to the leading causes of mortality and morbidity of young people. The NCHRBBS was the first national survey to measure health risk behaviors in six areas. The areas were categorized as 1) behaviors that contribute to unintentional and intentional injuries, 2) tobacco use, 3) alcohol and drug use, 4) sexual behaviors that contribute to unintended pregnancy and STDs, 5) unhealthy dietary behaviors, and 6) physical activity (Kolbe, Kann, & Collins, 1993).

Results from the 1995 survey noted 4.2% engaged in current frequent alcohol use. Male students were significantly more likely than female students, and White students were significantly more likely than Black or Hispanic students to be current frequent users of alcohol (Douglas et al., 1997). About one third (34.5%) of all students reported current episodic heavy drinking (consuming five or more drinks of alcohol on at least one occasion during the 30 days preceding the survey). Nearly half of all the students (48.7%) had used marijuana during their lifetime, and 14.0% had used marijuana during the past 30 days preceding the survey. Almost one third (31.3%) of the students had smoked cigarettes daily (at least one cigarette every day for 30 days) at some time during their lifetime, and 14.4% had used cocaine at some time during their lifetime.

Studies have also been conducted at individual institutions in regards to alcohol and other drug use. Alcohol consumption at the University of Florida, as reported by the Office of Student Services, has increased since 1987. According to the results of an alcohol and other drug use survey conducted at the University of Florida in 1999, 76.5% of the respondents reported that they had consumed an alcoholic beverage in the past 30 days. When asked the question how many times had they indulged in binge drinking ( $\geq 5$  drinks or more in one setting), 46.3% reported that they had so at least once. Twenty-three percent said they had indulged in binge drinking once or twice within the past two weeks, 15.8% had indulged in binge drinking three to five times, and 6.7% had done so six or more times (CADRC, 1999).

By gender, it was found that in the past 30 days, 78.3% of the men had reported using alcohol in the past 30 days, 29.0% reported using cigarettes, and 27.4% reported using marijuana. By comparison, 75.1% of the women reported using alcohol in the past 30 days, 28.0% reported using cigarettes, and 20.5% marijuana. When asked how many times they had indulged in binge drinking, 55.7% of the males reported that they had while 39.7% of the females reported this behavior. In the response of what is the average number of drinks they consume in a week, 25.5% of the males reported 1-4 drinks, 33.1% 5 to 10 drinks, and 16.3% 11 or more drinks. By contrast, 39.5% of the females reported 1 to 4 drinks, 21.8% 5 to 10 drinks, and 8.9% 11 or more drinks (CADRC, 1999).

Information about alcohol and other drug use has also been studied between students who are involved in fraternities and sororities. When students in Greek and Non-Greek organizations were asked about their substance use, 92.5% of Greeks reported drinking alcohol in the past 30 days, 40.4% reported using cigarettes, and 37.6% reported

using marijuana, while 71.6% of the non-Greeks reported using alcohol, 28.4% cigarettes, and 25.6% marijuana. When asked the question how many times had they indulged in binge drinking, 66.6% of the Greeks reported that they had while 41.7% of the non-Greeks reported this behavior. Also, in responding to questions on the average number of drinks consumed in a week, 30.4% of the Greeks reported 1-4 drinks, 39.3% reported 5 to 10 drinks, and 19.2% reported 11 or more drinks. By comparison, 34.2% of the non-Greeks reported 1-4 drinks, 23.9% reported 5 to 10 drinks, and 10.3% reported 11 or more drinks (CADRC, 1999).

The data from the University of Florida study also revealed alcohol and other drug use information among students of different ethnicity. In regards to alcohol use, White students reported the highest percentage of alcohol use in the past 30 days at 80%, followed by Hispanics (79.6%), American Indian/Alaskan Natives (75.0%), Asian/Pacific Islander (63.2%) and Blacks (44.3%). For cigarette use, Hispanics reported the highest percentage of use in the past 30 days at 36.0%, followed by American Indian/Alaskan Natives (33.3%), Whites (29.1%), Asian/Pacific Islander (27.9%), and Blacks (4.6%). For marijuana use, American Indian/Alaskan Natives reported the highest percentage of use in the past 30 days at 58.3%, followed by Hispanics (28.3%), Whites (24.5%), Asian/Pacific Islander (13.4%), and Blacks (11.6%). When asked how many times they had engaged in binge drinking, 25.3% of Whites reported this behavior once or twice, 24.9% followed by Hispanics (24.1%), Asian/Pacific Islander (17.6%), and Blacks (13.9%). Furthermore, in regards to binge drinking, 25.0% of American Indian/Alaskan Natives reported this behavior between 3 to 5 times, followed by Hispanics at 19.9%, and Whites at 17.0%. When asked what was the average number of drinks consumed in a

week, Hispanics reported the highest percentage of 1 to 4 drinks a week at 40.7%, followed by American Indian/Alaskan Natives (36.4%), and Whites (32.9). Whites reported the highest percentage of averaging 5 to 10 drinks in a week at 29.5%, followed by American Indian/Alaskan Natives (27.3%), Asian/Pacific Islander (23.9%) and Hispanics (23.6%) (CADRC, 1999).

The University of Florida study also included data with regards to student classifications. In regards to alcohol use, 81.3% of the seniors reported alcohol use in the past 30 days, followed by sophomores (77.7%), juniors (75.1%) then freshmen (67.1%). As for cigarette use, 35.4% of the freshmen reported cigarette use in the past 30 days, followed by sophomores (30.4%), seniors (27.5%), and juniors (26.3%). In regards to marijuana use, 28.9% of the freshmen reported marijuana use in the past 30 days, followed by sophomores (25.3%), seniors (23.9%), and juniors (21.5%). When asked the question of how many times they had engaged in binge drinking, 24.9% of the juniors reported this behavior once or twice, followed by seniors (24.8%), sophomores (24.4%), and freshmen (21.1%). In addition, 17.8% of the sophomores and seniors reported this behavior 3 to 5 times, followed by freshmen (16.7%) and juniors (14.5%). In their response to the average number of drinks they consume in a week, sophomores reported the highest percentage of 1 to 4 drinks at 34.6%, followed by juniors (33.4%), seniors (33.2%), and freshmen (26.0%). In addition, 32.2% of the seniors reported an average of 5 to 10 drinks a week, followed by freshmen (26.6%), sophomores (25.3%), and juniors (24.7%) (CADRC, 1999).

Although alcohol, marijuana, cocaine and cigarettes seem to be the drugs that are used the most by college students, other drug usage has been reported as well. In the



University of Florida study, 6.3% of the students indicated that they had used methamphetamines, but not in the past 30 days. In addition, 5.9% reported using hallucinogens, and 6.9% reported using inhalants, and 5.1% reported using LSD. By classification, 5.8% of the freshmen reported using inhalants in the past 30 days, followed by juniors (4.9%), sophomores (4.7%) and seniors (3.1%). Sophomores reported the highest use of methamphetamines in the 30 days prior to the survey at 5.4% followed by freshmen (4.5%), seniors (4.4%) and juniors (3.3%). By gender, 6.4% of the males reported using inhalants in the past 30 days, as compared to females at 3.2%. Males also reported higher use of methamphetamines at 5.1% followed by females at 3.7%. In comparison of Greeks to non-Greeks, 7.5% of the Greeks reported using inhalants in the past 30 days, while 5.1% of the non-Greeks reported this behavior. Greeks also reported a higher use of methamphetamines at 6.5%, followed by non-Greeks at 4.0%. By ethnicity, freshmen reported the highest use of inhalants at 18.2% followed by Hispanics (6.0%) and Whites (4.9%). Freshmen also reported the highest use of methamphetamines at 8.3%, followed by Whites (5.0%) and Hispanics (4.4%) (CADRC, 1999).

#### Consequences of Alcohol and Other Drug Use

When college students engage in alcohol and other drug use, college students are likely to have negative consequences, and many of these consequences have implications in the academic setting. Some of these consequences include poor test scores, missing classes, hangovers, experiencing memory loss, arguments or fights, driving while intoxicated, and trouble with the police. Presley et al. (1996), in the Core Alcohol and Other Drug Survey, found that 21.3% of the students reported performing poorly on a test or project, and 29.1% reported missing a class due to substance use. Other consequences

from the alcohol and other drug use included that 60.6% of the students reported experiencing a hangover within the past year, with 13.5% experiencing ten or more hangovers; 26.8% had a memory loss or blackout due to drinking or drug use; and 47.9% said that they became nauseated from drinking or other drug use "in the last year." By gender, it was found that 15.8% of the men believed that they had a substance abuse problem as compared to 7.9% of the women, and 17.5% of the men had been in trouble with police or other campus authorities compared to only 7.5% of the women. In addition, 9.6% of the men reported that they took advantage of someone sexually compared with 3.0% of the women.

Wechsler et al. (1998) found results in relation to alcohol and other drug related consequences. Some of their findings included 60.3% experienced a hangover, 30.1% had missed a class, 35.8% drove after drinking alcohol, 26.7% forgot where they were and what they did, 23.5% argued with friends, 23.2% got behind in school work, 22.5% engaged in unplanned sexual activity, and 19.8% reported to have five or more different alcohol-related problems. Wechsler et al. (1999) also found additional information on alcohol-related consequences. Their findings included that frequent binge drinkers (defined as those who binged three or more times in the past two weeks) encountered these type of alcohol related problems: 58.9% were injured, 58.8% damaged property, 58.4% had trouble with the police, 53.9% fell behind in their school work, 53.8% missed class, 52.3% experienced blackouts and had unprotected sex, and 49.7% had unplanned sex.

When students at the University of Florida were asked about some alcohol and other drug-related consequences they have experienced one or more times, some of the

included 70.1% had a hangover, 56.8% had vomited, 48.1% had driven while under the influence, 47.9% had missed a class, and 30.9% experienced memory loss, 29.7%, performed poorly on a test or project, and 29.1% had gotten into a fight or argument. By gender, 68.1% of the males reported that they had a hangover, 56.5% had vomited, 54% had driven under the influence, 50.7% had missed a class, 28.85% had unexpected or unplanned sex, and 31.6% fell behind in academic work. By contrast, 71.6% of the women reported having a hangover, 57% had vomited, 46.3% had missed a class, 44% had driven under the influence, 28.9% performed poorly on a test or project, 30.7% had a memory loss, 21.1% had unexpected or unplanned sex, and 13.2% had been taken advantage of sexually (CADRC, 1999).

#### Reasons for Using Alcohol and Other Drugs among College Students

The college experience in the United States has traditionally been characterized as a period of transition in which students prepare for independent living. During this transition, students are presented with challenges to stimulate the mind and opportunities to develop the body and spirit, all of which have been identified as integral to successful student development (Kanters & Forrester, 1997). In developing programming, colleges often assume that students have similar health behavior practices because most students are moving from adolescence to young adulthood. Students are drawn to a college campus because of the physical, economical, and psychological characteristics it possesses. The characteristics of the students are influenced by the environment of that campus. The educational setting, then, makes a difference both socially and academically in students' lives (Moos, 1987).

How students cope with the stressors of college and university life is influenced by their level of self-esteem and availability of emotional supportive networks. Researchers agree that the way people consciously think about a stressful situation affects how they respond emotionally (Antonovsky, 1979). People who perceive that they can control the stressful event are more likely to successfully cope with the stressor. People with negative self images tend to perceive themselves as having little control over both present and future life events. Therefore, students with low self esteem may be at a risk for substance abuse related to stressful situations.

Presley et al. (1996), with the Core and Alcohol Drug Survey, examined what are some of the social and sexual effects that alcohol and other drugs have. According to their respondents, 68% felt that alcohol breaks the ice, 66% felt that it embraces social activity, 62% felt that alcohol gave them something to do, 55% felt that alcohol gave people something to talk about, and 53% thought that alcohol allowed people to have more fun. Other findings from the study were that 50% felt that alcohol facilitated male bonding and peer connections, 47% felt that it facilitated sexual opportunities, 36% felt that it facilitated female bonding, 21% felt that it made women sexier, and 12% felt that it made men sexier.

When students at the University of Florida were asked what were their reasons for using alcohol and other drugs, overall, 78.9% responded to have fun, 63.6% responded to relieve other stress, 53.8% responded to ease social interactions, 48.9% responded to relieve academic stress, 47.5% responded to get high or drunk, 15.1% responded to enhance sex, and 14.4% responded to fit in with friends. To have fun was the number

one reason for consuming alcohol among gender, classification, ethnicity, and Greek/non-Greek involvement (CADRC, 1999).

#### Alcohol and Other Drug Use to Cope With Pressure

From a health promotion standpoint, it is important to understand why college students use alcohol and other drugs to cope with the pressures of college life. A study conducted by McCormack, Laybold, Nelson, and Budd (1993) related to stress and substance use found alcohol and drug abuse to be a negative coping factor for college students under stress. According to their findings, almost a quarter of the students (23%) reported that it is acceptable for a student to drink when under stress. In addition, 12% reported marijuana use acceptable, and 2% indicated cocaine use as an acceptable means of dealing with stress. The results also indicated that males were more likely than female resident students to use alcohol or marijuana to relieve stress. In addition, it was shown that this difference increased for students who had low self-esteem levels. McCormack et al. (1993) stated that "the results of the present study argue that educational officials can increase the effectiveness of their intervention by incorporating programs designed to mediate the stress process into college and university life" (p. 222).

A study conducted by Morris and Schneider (1992) discussed stress and coping behaviors of students from five campuses. The three most popular coping behaviors on all campuses were seeking out a friend, watching television or reading, and sleeping. Students at land-grant institutions were most likely to use negative coping behaviors such as alcohol, drugs, or food (9% drinking, 1% drugs, 7% food). Students on land-grant (16%) and all-female campuses (11%) were most likely to be involved in a violent encounter. Eighty-three percent of the students from all types of colleges reported drinking regularly. The liberal arts college campus had the highest average of drinking

regularly at 99% and the lowest average at 60% on land-grant. Finally, the most commonly used drug other than alcohol was reported as marijuana. The highest reported usage of marijuana was on the land-grant campuses with 32% of the respondents reporting that they used marijuana. This research provides evidence to support the effect of environment on health and other behaviors.

Loneliness and low self-esteem are reported to be causes of alcohol abuse. According to Berkowitz and Perkins (1986) students use alcohol to escape, escalate low self esteem, and as a coping mechanism for stress. Alcohol as a negative coping mechanism for stress is reported on many college campuses (Berkowitz & Perkins, 1986; McCormack et al., 1993; Morris et al., 1992). The need for alternatives to alcohol use as a coping mechanism is important to increase the overall wellness of the college population.

#### Intramural and Recreation Sports as Alternatives for Alcohol and Other Drug Use

Given the stressors with which college students have to deal, the ability to deal with stress effectively is an essential skill. Carruthers et al. (1992) proposed that engaging in leisure or recreational activities is an ideal means to decrease stress and decrease alcohol and drug abuse. In their research, Carruthers et al. (1992) stated that leisure involvement is a form of stress management, in that involvement in activities which are meaningful and engaging generally results in relaxation. Individuals experiencing can use leisure and recreation activities as a release or distraction, rather than turning to alcohol or other drugs.

One means of recreational activity readily available on college campuses is intramural sports. Intramural sports refers to activities and games administered within a

specific institution (Mueller & Reznik, 1979). The goal of intramural sports is to provide an opportunity for individuals to be able to participate without concern of winning or losing (Sattler et al., 1978). Intramural sports are especially common on the junior high, high school and college levels (Mueller & Reznik, 1979), and offer benefits to those who participate. First, intramural sports are important because they provide individuals with a means of obtaining physical activity, and, as a result, the possibility of bettering their physical conditioning (Mueller & Reznik, 1979). Second, physical fitness has direct moral implications. According to Sattler et al. (1978), individuals who are more physically fit will also be better prepared mentally and spiritually. Third, intramural sports are important socially. Means (1973) states that through participation in intramural sports individuals can learn the social values of competition. These social values include sportsmanship, compatibility, relaxation, and the benefits of long-term activity.

Intramural sports have been part of the American society for many years. As long ago as the colonial period, settlers engaged in intramural type activities such as leisure and recreational events and sports clubs (Kleindienst & Weston, 1964). During the second century of American settlement, leisure and recreation facilities began to be constructed. Between 1820 and 1840, several gymnasiums were opened in schools and colleges to provide organized recreational programs for the students. Sports clubs were being organized during this period. From these recreational activities and clubs evolved the more modern form of intramural sports (Kleindienst & Watson, 1964). However, the participants of these activities were men. Not until the late nineteenth century did women's needs for physical activity emerge (Kleindienst & Watson, 1964). As women

gained acceptance for continue physical activity, women's sports clubs of tennis, boating, and cycling began to become popular. However, women's participation in intramural sports did not become immediately accepted.

#### Participation and Motivation Factors in Intramural/Recreational Sports

Since intramural sports seems to provide college students opportunities for physical activity, competition, and socialization, it is important to understand why they participate and what are their motivations to intramural sports. Several studies have examined motivational factors for recreational sports participation at the collegiate level. In the mid-1950s, McGuire (1956) surveyed male students at the University of Texas to determine why they participated in intramurals. The top three reasons reported by McGuire were 1) They liked the activity, 2) To help the organization (fraternity) win a trophy (extrinsic), and 3) As a recreational avenue. In 1963, Cain reported that the women at the University of Arkansas participated because they 1) Enjoyed sports, 2) Played sports in high school, 3) Enjoyed friendly competition, and 4) Enjoyed meeting new people.

Other studies examining motivational factors for recreational sports participation include a study at Kansas State University by Edmonson (1975) which reported that male and female students participated because of 1) Social values, 2) Aesthetic values, 3) Health and fitness, and 4) The pursuit of the athletic high. At the University of Maryland, Zuercher et al (1980) found that students participated in intramural sports because 1) They were fun, 2) Physical exercise, 3) Organization needed the points, 4) To meet or be with other students, 5) Competition, and 6) Friends expectations (peer pressure). At the University of Michigan, Hammit and Hammit (1980) surveyed student



users of recreational sports facilities finding that physical exercise, mental relaxation, and a change in routine were very important reasons for participation.

At the University of Minnesota, recreational sports participants were surveyed to determine their reasons for participating, use patterns, and opinions (Chestnutt & Haney, 1984). Their findings revealed that most students preferred co-ed sport participation to single gender leagues, and team sports to individual and dual sports. The top three reasons for recreational sports participation were: 1) Keeping physically fit, 2) Releasing or reducing built-up tension and stress, and 3) Giving your mind a rest, a change of pace (Chestnutt & Haney, 1984). University of Michigan participants and non-participants were also questioned about the university's recreational sports program. The results indicate that 35% of the students did not participate, and twice as many males as females participated (Stevenson, Reznik, & Zuecher, 1979).

Another study examined the recreational preferences of commuters and campus residents at the University of Maryland (Foster, Sedlacek, & Hardwick, 1977). Their study showed that residents participated in nearly twice as many activities as commuters, and were less likely to use off-campus recreational sports facilities. Also, at the University of Maryland, Zuercher et al. (1982) interviewed undergraduates to determine their experiences and perceptions of the intramural program. Their results revealed that females were more interested in sports outside of the intramural program (informal and fitness programs)

Zuercher et al. (1982) at the University of Maryland identified several reasons for participation in intramural sports. The results of Zuercher et al. (1982) indicated that 32% of the women surveyed participated for physical exercise, while only 21% of the

men surveyed participated for physical exercise. Twelve percent of the women indicated a desire to meet people as their reason for participation. Only 7% of the males surveyed participated to meet people. In addition, 6% of the females participated because of their friends' expectations.

Since intramural sports seems to provide college students opportunities for physical activity, competition, and socialization, it has been found that individuals do not participate in intramural sports for various reasons. The major reasons reported Zuercher et al. (1982) at the University of Maryland for not participating indicated that 27% of the individuals did not have time, 11% were not interested, 10% had conflicts with work, 6% lacked information about the activities, 5% lived too far away, and 4% had conflicts with study time. Thirty-three percent of the women surveyed indicated they did not participate because of insufficient time. Only 10% of the males interviewed indicated they did not have time. In addition, 7% of the women had conflicts with study time. Nine percent of the women reported insufficient information, while only 3% of the men reported insufficient information. The study also reported that many of the women who did not participate in intramural sports participated in outside activities such as jogging, ice-skating, roller-skating, and dancing. These are non-competitive activities in which the women could participate for enjoyment, exercise, and comradeship (Zuercher, et al 1982).

Snodgrass and Tinsley (1990) examined motivations for participation in recreational sports by way of descriptive statistics. They found that the overall motivation for participation in recreational sports was highest in the physical wellness and competence mastery areas, with reducing stress and maintaining a balanced lifestyle

being somewhat important. Motivation to compete was only important to half of the respondents overall, but twice as important for males as compared to females. The findings of this study also show that while women participated overall as much as men, they do not participate in intramural team sports as often as men do.

Two of the more recent studies involving recreational sports participation were done by Smith and Missler (1994) and Bourgeois et al. (1995). Smith and Missler (1994) investigated the personal meaning of intramural sport participation by assessing the motivations of intramural softball participants. Their findings show that the number one reason for continued involvement in intramural recreational sports was "having fun." Their most significant differences on why student chose to participate were between male and female students. According to their study, males participate in intramural recreational sports with a competitive attitude. This competitive attitude manifests itself in their desire to dominate an opponent, win, and show off their skills. Alternatively, females appear to participate with a more cooperative attitude. Females reported participation in intramural recreational sports for reasons of health, fitness, social benefits, and experiencing nature. It was evident from this study that male and advanced players embraced the competitive model toward participation, while females and beginners valued the cooperative model (Smith & Missler, 1994).

Bourgeois et al. (1995) examined factors influencing intramural recreational sport participation by questioning 237 volunteers from an introductory psychology class. They found that intramural recreational sport participants display relatively high vigor and low confusion, report less competitive anxiety, and have a much higher motivational level. Their study concluded that intramural recreational sports can serve as a means for

students to meet their needs for power and success, for fulfilling the need for psychological and physical well-being, and perhaps to provide a more well-rounded collegiate experience (Bourgeois, et al., 1995).

#### Recreation Sports as a Coping Mechanism for Stress and Alcohol and Other Drug Use

Since college students may engage in leisure or recreation activities, it is important to note if the literature shows how this type of activity can help reduce the perception of stress in college students. The purpose of a study by Ragheb and McKinney (1993) was to examine how leisure or campus recreation contributed to the reduction of perceived academic stress in college students. They found that the more students participated in recreation activities, the less they perceived academic stress

In a study of the association between recreational activities and the use of various substances, Swisher & Hu (1983) reported the following patterns: Participation in sports was associated with less use of marijuana and depressants, hallucinogens and stimulants, and with more use of beer. Active participation in hobbies was associated with less use of beer and stimulants. Entertainment, social activities, and extracurricular activities were associated with more use of all substances except hallucinogens. Scarinci (1994) investigated the relationship exists between recreation participation and alcohol use in college students at the University of Florida. She found that outdoor recreation, sports participation, social activities, and hobbies were also found to have a significant relationship with alcohol consumption. It appears that the literature between recreation participation and alcohol and other drug use are inconsistent and more studies are needed to further examine this relationship

### Sport Participation and Healthy Behavior among College Students

The benefits that individual's receive from participation in recreation or leisure activities is analogous to participation to sport activities in general. Athletics has been regarded widely as a means of encouraging children and adolescents to develop healthy habits and steering them away from smoking, drug abuse, and other detrimental behavior. Participation in sports traditionally has been regarded as a means of encouraging the development of healthy habits and deterring young people from risky behaviors. A report from the President's Council on Physical Fitness and Sports stated that by participating in athletics, young people will be less likely to get involved with drugs and alcohol (Vidmar, 1992). A study by Escobedo et al (1993) found sports participation to be associated with lower rates of regular and heavy smoking among adolescents. Smoking at a young age was also reported to be more likely to occur in adolescents who did not participate in interscholastic sports. A more recent longitudinal study found that female athletes were nearly three times less likely to report cigarette use than nonathletes (Skolnick, 1993).

Page et al. (1998) found that male and female students who reported participating on both one or two teams and three or more teams were significantly more likely to have not engaged in cigarette smoking and illegal drug use than those not playing on any sports teams. They also found that sports participation was not associated with the likelihood of ever drinking alcohol, drinking alcohol in the past 30 days, or drinking heavily in the past 30 days.

Thorlindsson et al. (1990) examined the relationship between sport participation and perceived health. They found that adolescents who are active participants in sports

tend to experience less anxiety, be less depressed and have fewer psychophysiological symptoms such as aches and pains and dizziness. Those who have fewer psychological symptoms in turn are more likely to view their health positively. They also found that sport participation is inversely related to smoking and the use of alcohol. Adolescents who are active in sports clearly tend to use these substances less than others.

An explanation for positive findings towards sport participation and health behavior may be that participation in school sports increases opportunities for young people to bond in a prosocial way with peers and the school. Social bonding theorists assert that the availability of bonding opportunities in the school environment may enhance an individual's social bonding and reduces risk-taking behavior (McBride et al., 1995). Participation in sports may enhance bonding by increasing opportunities for students to feel a sense of belonging, attachment, and participation within their social environment. These feelings may "operate as protective factors by buffering stress, enhancing social integration, and in turn, decreasing adolescents' risk-taking behavior" (McBride et al., 1995)

Although the theory suggests that sport participation enhances positive health behavior, there have been some studies which have not found favorable results amongst sport participation and health behavior. Some investigators have speculated that athletes would be more inclined to maintain top physical fitness and would therefore be less likely to drink than non-athletes (Straus & Bacon, 1953). However, it appears that athletes are as likely than the general student population to engage in deleterious alcohol consumption and use of other substances. Aaron et al. (1995) found that the most active males or males who participated in competitive athletics appeared more at risk for

initiating alcohol consumption that their less active counterparts. Skolnick and Winkler (1992) found that collegiate student athletes were more likely to report engaging in risky behavior than students not involved in athletics. Wechsler et al. (1995) found that students who strongly valued athletics were more likely to binge drink.

Anderson et al. (1991) surveyed college athletes at 11 institutions in five men's and women's sports and found that 89 percent of the athletes reported alcohol use in the preceding 12 months. A similar study conducted in the mid 1980's by Anderson and McKeag (as cited in Anderson et al., 1991) found that 88 percent of student and amateur athletes reported alcohol use in the preceding 12 months, suggesting that alcohol use had remained fairly stable in this population. Anderson et al. (1991) also found that alcohol was by far the most used drug among college athletes when compared with cocaine, crack, marijuana, hashish, smokeless tobacco, amphetamines, anabolic steroids, major pain medications (e.g. Tylenol, morphine, etc.) and prescription weight loss products.

In a study of 216 students (109 intercollegiate athletes and 107 nonathletes) at one college, researchers found that athletes consumed significantly more alcohol per occasion than nonathletes (54% v. 36% respectively) (Nativ & Puffer, 1991). Researchers who studied students at four Mississippi institutions reported that male and female athletes were more likely than other students to drink beer (Overman & Terry, 1991). These researchers also found that male nonathletes were significantly more likely to drink during the week, whereas male athletes were inclined to drink on special occasions.

Wechsler et al. (1997) in a survey of 140 colleges, extended research findings that highlighted differences in alcohol consumption between athletes and nonathletes. They surveyed 17,251 college students to examine binge drinking rates for students involved,

partly involved, and not involved in athletics. Their findings suggested that rates of binge drinking (defined as five or more drinks in a row for men, four or more for women) increased as involvement in athletics increased. Sixty-one percent of the men involved in athletics reported binge drinking, compared with 55% of the men somewhat involved and 43% of men not involved in athletics. Similar findings were reported for women: Binge drinking was reported by 30% of the women in athletics, 46% of those partly involved, and 36% of those who were not involved. They also found that the strongest predictors of binge drinking among college students involved in athletics included living in a fraternity or sorority, viewing parties as important, and having binged in high school (Wechsler et al., 1997)

Researchers reported that, along with higher consumption levels, college athletes had a tendency to experience more drinking-related consequences, exhibit more high-risk behaviors, and engage in more sexual violence than their nonathletic counterparts (Nattiv & Puffer, 1991). Specifically, Nattiv & Puffer (1991) found significantly higher rates of intercollegiate athletes driving while under the influence of alcohol and riding with intoxicated drivers. In addition, college athletes were reported as having more sexual partners and contracting more sexually transmitted diseases (STDs) than nonathletes. Recent research has looked at differences in use and consequences of alcohol use among leaders, team members, and nonparticipants in intercollegiate athletics. Leichter et al. (1998) found that athletes (team members and leaders) consumed significantly more alcohol than nonathletes. They also found that students in athletic leadership roles consumed more alcoholic beverages in a week than other team members and nonparticipants. Another finding was that for the sample as a whole, the percentage of



students who engaged in binge drinking increased as the degree of athletic involvement increased.

Other findings from the Leichter et al. (1998) study were that athletes were more likely than nonathletes to experience negative consequences as a result of drug or alcohol use. In addition, a higher proportion of athletic leaders than team members and nonathletes reported consequences resulting from their substance use (Leichter et al., 1998). Another study by Meilman et al. (1999) analyzed the data looking at athletic involvement and Greek involvement. Their findings included that students who participated in both Greek life and intercollegiate athletics consumed the most alcohol and engaged in the most binge drinking. Greek athletes were reported to consume the most alcohol by weekly consumption, and were most likely to experience negative consequences as a result of their substance use (Meilman et al., 1999). The findings from the studies on sport participation and alcohol and other drug use are inconsistent, and therefore, more studies are needed to examine this relationship among college students.

#### Attitudes Toward and Reasons for Alcohol Use among Athletes

There are three primary reasons why athletes use drugs: 1) as ergogenic aids to facilitate physical performance, 2) as restorative agents to allow continued performance despite injury, and 3) recreational drugs to cope with problems or to experience altered mental or physical states (Nuzzo & Waller, 1988). Though it is difficult to place alcohol solely in one of the three categories, its use by athletes is generally for recreational purposes.

Although previous research (Hayes & Tevis, 1977) found that nonathletes held more tolerant attitudes toward alcohol use and reported greater incidence of heavy drinkers than athletes, some other findings (Rooney, 1984; Stuck, 1988) have suggested

that nonathletes and athletes are more similar than dissimilar in their attitudes toward the use of alcohol. It has been suggested that sport is a microcosm of the social world and reflects the profile of American life existing at the time (Edwards, 1973). Therefore, when drug and alcohol use are part of the social fabric, we can expect them to be part of the sport world as well.

Similar to the general population, reasons for alcohol use by athletes differ depending on age and circumstances. In a recent study of high school athletes (Green, 1995), some reasons reported for alcohol use were to have a good time with friends, to celebrate, to feel good, and to deal with the pressures of school and athletics. Not surprisingly, collegiate athletes report similar reasons to high school athletes for using alcohol. In a survey of collegiate athletes' drug use, Evans et al. (1992) found that respondents cited three primary reasons for alcohol. Seventy-eight percent said they used alcohol for recreation and social reasons, 47 percent indicated they used alcohol to feel good, and 28 percent said they used alcohol to deal with stress from college life. This study also found that those athletes who use alcohol the most scored significantly higher of the subscales of anger, fatigue, and vigor on the Profile of Mood States (POMS), a questionnaire designed to measure six major mood states.

Heyman (1990) described psychological and personal factors that may influence the use of alcohol by an athlete. It is noted that these factors do not only apply to the collegiate athlete, but high school, professional and intramural as well. While not actively promoting alcohol use, the sports world has unknowingly influenced and encouraged the use of alcohol by athletes. Young athletes are exposed to alcohol use when attending athletic games, particularly professional games. Victories are celebrated

and losses mourned with the use of alcohol (Duda, 1986). All of these factors are telling young athletes, male and female, that alcohol is a part of sports.

Peer pressure or influences may be greater in an athletic population of children or young adults than in a non-athletic population. Athletes are taught to think like a team. Heyman (1990) believed that the age old adage 'there is no "I" in "TEAM"' teaches young athletes that it is their responsibility to do what is best for the team. If members of the group are using alcohol or other drugs, those athletes who are uncertain on how they feel about alcohol use may be more likely to participate because they are a part of the team (Heyman, 1990). Heyman also suggested that athletes form their primary friendships with team members. This could also help to predispose, enable, or reinforce alcohol use.

#### Life Satisfaction

Throughout the course of this literature review, involvement in intramural sports and sport participation has been shown to have a positive effect on the lives of college students. Intramural sport participation can also lead to positive life satisfaction as well. In order to understand the concept of life satisfaction, one must first understand the concept of subjective well-being (SWB). Subjective well-being is a psychological construct that has generated considerable research in the past 20 years (Diener, 1994). Subjective well-being (SWB) has been classified into two components, the cognitive aspect of overall life satisfaction, and the affective aspect, including positive and negative affect. The cognitive component has been defined as the intellectual evaluation of one's life satisfaction either globally or with respect to specific life domains (Myers & Diener, 1995; Pavot & Diener, 1993). The affective components include the presence of positive

affect such as happiness or good feeling and the absence of negative affect. Negative affect refers to unpleasant feelings such as anxiety and anger (Myers et al., 1995).

Life satisfaction refers to a cognitive, judgmental process. Shin & Johnson (1978) define life satisfaction as a “global assessment of a person's quality of life according to his chosen criteria” (p. 478). Judgments of satisfaction are dependent upon a comparison of one's circumstances with what is thought to be an appropriate standard. It is important to point out that the judgment of how satisfied people are with their present state of affairs is based on a comparison with a standard with which each individual sets for himself or herself. It is a hallmark of the subjective well-being area that it centers on the person's own judgments, not upon some criterion which is judged to be important by the researcher (Diener, 1984). For example, good health behavior may be a desirable component by college students, but different individuals may place different values on it. That is why it is important to ask people for their overall evaluation of their life, rather than summing across their specific domains to obtain a measure of overall life satisfaction.

Many scales have been developed to address the affective component of SWB (Bradburn, 1969; Campbell et al., 1976; Watson et al., 1988). Other scales have been generated to examine the related affective component, emotional balance and happiness). In order to assess the life satisfaction component of SWB, Diener et al. (1984) developed the Satisfaction with Life Scale (SWLS) to measure global life satisfaction. Diener et al. (1984) defined life satisfaction as a global construct of satisfaction that each individual makes for him or herself. Specifically, they defined life satisfaction as a subjective judgment that crosses over many possible well-being domains, such as health, vigor, and

mood, and designed the SWLS to assess the overall judgment of life satisfaction and avoid specific well-being concepts (Pavot et al., 1991).

Since its development, this scale has been widely used because of its demonstrated reliability and validity, as well as its brevity (Alfonso, 1995; Diener et al., 1984). Some studies have addressed life satisfaction among college students. Pilcher (1998) examined how well affect and daily events predict life satisfaction in college students utilizing the Satisfaction with Life Scale (SWLS). Results from this study were that affective and daily events were related to and significantly predicted the SWLS in college students. Specifically, she found that an increase in subjective life satisfaction was predicted by decreases in depression, negative affect, and frequency of illness and by increases in vigor.

Some studies have looked at the effects of age, sex and university status on life satisfaction measured by the Satisfaction With Life Scale. Some studies have indicated a positive relationship between age and life-satisfaction (Lewinsohn et al., 1991), while others reported that younger people are satisfied with their life more than older people (Shmotkin, 1990). A majority of the studies have found no age effects on life satisfaction (Geis & Klein, 1991; Poloma & Pendleton, 1990).

The relationship between gender and life-satisfaction has also produced inconsistent findings. Some studies have reported that men are more satisfied than women (Geis & Klein, 1990), while other studies have shown that women are more satisfied with their life than men (Heady & Wearing, 1991). No differences in life satisfaction between gender has also been reported in the literature (Shmotkin, 1990; Lewinsohn, et al., 1991).

The relationship between university status and life satisfaction has rarely been addressed. A study by Palys and Little (1983) compared university students with community members and found that community members showed slightly higher life satisfaction than university students. It should be noted that they tested very small samples. In a more recent study, Hong & Giannakopoulos (1994) investigated the effects of age, sex, and university status on life satisfaction utilizing the SWLS. Their results found higher satisfaction among older adults as compared to younger people, but they did not find any significant differences in life satisfaction among gender and university status.

College students often face many stressors that can affect their environment. The pressures that an adolescent or a college student faces in making the transition to adulthood and establishing independence from parents and/or guardians, physical maturation, and developing a sense of self often can result in experimentation and risk-taking (Konopka, 1991). According to the Centers for Disease Control (CDC, 1998), approximately 70% of the nations adolescents have tried cigarette smoking, 9% have used smokeless tobacco, 79% have had at least one drink of alcohol, 47% have used marijuana, 8% have used some form of cocaine, 3% have used illegal steroids, 2% have injected illegal drugs, and 16% have used inhalants. As a result, the importance of studying these risk behaviors helps gain an insight into these behaviors during this period.

#### Student Satisfaction and Perceptions in Recreational Sports

Recreational sports has received increased attention on college campuses across the United States, and issues of recruitment, retention and student satisfaction have emerged as institutional priorities. Banta et al. (1991) indicated that recreational sport facilities and programs serve as recruiting highlights, enhance overall satisfaction with

the collegiate experience and make positive contributions to an institution's retention efforts. Research concerning the beneficial effects of participation in out-of-class activities consistently identifies such involvement with greater satisfaction of college choice and an increased likelihood of persistence (retention). Participation in extracurricular interest groups, publications, teams and residential societies has been shown to have a major impact on the emotional, moral, social, physical, and intellectual abilities of their student members (Miller & Jones, 1981).

Alexander Astin's Theory of Involvement (1993) provides a strong argument in favor of participation in extracurricular student activities and organizations by indicating that such participation contributes to the education of students. Based upon the simple principle that students learn by becoming involved, Astin (1993) asserts that the amount of learning and personal development that takes place in college is directly proportional to the quality and quantity of involvement. Astin (1993) also asserts that involved students tend to achieve better grades, persist in college, have greater chances of implementing career objectives and are more satisfied in their college experience. As Cross (1980) notes, the greater the contact of students with colleges, the greater the impact colleges have on students. Students involved in such activities have also been reported to be more satisfied with their college experience and more likely to graduate (Garland, 1985).

Kovac and Beck (1997) investigated student perceptions and life satisfaction of recreational sport services. Their results included that students reported being generally satisfied with their recreational sport experiences, felt the availability of recreation facilities and programs was an important factor in deciding to attend and continue at an

institution; and perceived that participation in recreational activities provided individual benefits in terms of fitness, feeling of physical well-being, sense of accomplishment, stress reduction and physical strength. Primarily through participation in open recreation activities and supporting services, recreational sports produced the highest levels of student participation and satisfaction in all aspects of campus life.

Kovac & Beck (1997) also explored the differences in males vs. females in terms of perceived benefits and rates of participation in intramurals. They found that women were generally more satisfied with their recreational experiences than their male counterparts, and that they participated in recreational sports for a wide variety of reasons, viewing such participation as providing individual as well as social benefits. While the motivations for male participation in recreational sports tended to cluster around benefits related to the self, female responses identified reasons for participation that included social and community concerns.

#### Life Satisfaction and Alcohol and Other Drug Use

A few studies have addressed life satisfaction and substance abuse behaviors (Clark & Kirisci, 1996; Newcomb et al., 1986; Zullig et al., 1999). In Clark & Kirisci's study (1996), life satisfaction was reserved for a single domain of quality of life, psychological functioning, and measured by the interviewers on a four-point scale from "always satisfied" to "never satisfied" in its relationship to posttraumatic stress disorder and anxiety. The other quality of life domains in this study were physical functioning, social functioning, and role functioning. They are all individual, subjective measures of quality of life, but they failed to differentiate between other specific domains that have



been demonstrated to be important to children such as family, friends, school, and living environment.

The study by Newcomb et al (1986) makes direct, causal links between alcohol use and some of the life satisfaction domains (self, peer relationships, future life opportunities, and global perceived environment), but reserves its conclusions only for alcohol. The study followed adolescents in 7<sup>th</sup> through 9<sup>th</sup> grade into early adulthood and found that early alcohol use created an exacerbation in peer dissatisfaction and of dissatisfaction with perceived environment in young adulthood. In addition, they found that early alcohol use did not directly affect later dissatisfaction with future opportunity, however, early dissatisfaction caused a direct, but small increase, in young adult alcohol use.

Zullig et al. (1999) examined the relationship between selected substance abuse behaviors and perceptions of life satisfaction amongst public high school students. After examining the relationship between reported life satisfaction and other selected substance use behaviors, they found that inhalant use, thirty day prevalence of smoking cigarettes, and lifetime cocaine use were the top three risk behaviors that were most significantly related to reported life dissatisfaction.

Some specific findings from the Zullig et al. (1999) study were that white adolescent females who had smoked within the past 30 days increased the odds of reporting dissatisfaction with their life by 1.8 times in comparison to White females who had not smoked within the past 30 days. White females who had used marijuana in the past 30 days had 1.5 times greater odds of reporting dissatisfaction with their lives compared to those who had not used marijuana in the past 30 days. Also, white females

who reported using cocaine during their lifetime had increased odds of reporting dissatisfaction with life of 2.3 times in comparison to white females who had never used cocaine.

For black females, those who reported using marijuana in the past 30 days increased the odds of reporting dissatisfaction with life by 2.0 times compared to those who had never reported marijuana use. Black females who had drank at least once in their lifetime had 1.4 times greater risk of reporting dissatisfaction with life versus black females who had never drank during their lifetime. Also, black females who reported binge drinking in the past 30 days increased the odds of reporting dissatisfaction with life by 1.6 times when compared to those who did not report binge drinking (Zullig et al., 1999).

For white males, those who reported smoking in the past 30 days reported dissatisfaction with life 1.6 times more often compared to those who had not smoked in the past 30 days. Those white males who reported lifetime cocaine use were 1.9 times more likely to report dissatisfaction with their lives than those who had never used cocaine. Finally, white males who reported lifetime inhalant use, compared to those who hadn't, had a risk of reporting dissatisfaction with their life by 1.5 times (Zullig et al., 1999).

For black males, those who reported smoking at least once in the past 30 days were 1.9 times more likely to report dissatisfaction with life compared to those who had not smoked during the past 30 days. For lifetime cocaine use, the likelihood of being dissatisfied with life increased by 2.8 times compared to those who had never used cocaine. Black males who reported lifetime crack or freebase forms of cocaine use were

7.2 times more likely to report life dissatisfaction as compared to those who didn't report drug use (Zullig et al., 1999).

### Summary

The research reviewed in this chapter has indicated that alcohol and other drug usage is common among college students (Douglas et al., 1997; Wechsler et al., 1994, Presley et al., 1996). The reasons that college students are using alcohol and other drugs are related to dealing with stress among the college environment, low self-esteem, social interactions, and having fun. Considering the usage of alcohol and other drugs by college students and the serious consequences related to alcohol and other drug use, the need for an alternative is important for the wellness of the college population.

One means that college students can use to deal with stress and the college environment is intramural/recreational sports. The goal of intramural sports is to provide an opportunity for individuals to be able to participate without concern of winning or losing (Sattler et al., 1978). Some of the reasons that have been cited for participation in intramural sports include physical exercise, mental relaxation, enhancing their social skills, releasing or reducing built up tension and stress (Hammitt & Hammitt, 1980; Chestnutt & Haney, 1984). More recent studies have shown that participation in recreational sports can serve as a means for students to meet their needs for power and success, fulfilling the need for a psychological and physical well-being, and providing a more well-rounded collegiate experience. Studies have also shown how participation in recreational activities can contribute to the reduction of perceived academic stress among college students (Ragheb & McKinney, 1993). Additionally, participation in recreational

activities can be associated with less use of marijuana and depressants (Swisher & Hu, 1983, Scarinci, 1994).

Life satisfaction is also a component that can be important in college student's lives. Some studies have investigated students perceptions and satisfaction of recreational sport services. The results from these studies have shown that students who are satisfied with their recreational sport experiences have the perception that participation in recreational activities can provide individual benefits in terms of fitness, feeling of physical well-being, sense of accomplishment, stress reduction and physical strength (Jovac & Beck, 1997). They also found that participation in recreational activities produced the highest levels of student participation and satisfaction in all aspects of campus life.

Although there have been studies which have examined satisfaction in recreational sports in regards to participation, there have been no studies which explored the relationship of life satisfaction and alcohol and other drug usage amongst intramural and non-intramural sport participants. Zullig et al. (1999) in their study found significant relationships between selected substance use behaviors and life satisfaction, but their study was limited to public high school adolescents. Because of the inconsistent findings in the literature, there is a need to further examine the relationship of sports participation and alcohol and other drug use. In addition, the inconsistent findings in the literature pertaining to alcohol and other drug use and life satisfaction also demonstrates the need for studies examining this relationship. This study will be helpful to provide information of alcohol and other drug usage as well as life satisfaction among students who participate in intramural sports.

### CHAPTER 3 METHODOLOGY

The purpose of this study was to 1) compare the frequency, quantity, and reasons for alcohol and other drug use between intramural and non-intramural sport participants, 2) compare the perceptions of reported life satisfaction between intramural and non-intramural sport participants, and 3) examine the relationship between alcohol and other drug usage and perceptions of life satisfaction among intramural sport participants. This chapter describes the methods and procedures that were used to acquire subjects, obtain and analyze the data. Description of the subjects, instruments, and data analysis are included.

#### Subjects

The subjects in this study were chosen from a convenient sample of an undergraduate student population of a large southeastern university. Students in personal and family and medical terminology courses were utilized for this study. These courses were used because they were considered to be representative of the undergraduate student population with its racial and ethnic makeup. A number of 400 subjects was determined to be needed to achieve a power of .90.

This approach was implemented due to the availability of students and the low cost of administering the questionnaires. Prior to administering the questionnaire, the investigator obtained approval by the University of Florida's Institutional Review Board. The investigator then contacted the instructors of the personal and family health and

medical terminology classes offered in the 2000 Spring Semester. After the investigator was granted permission to administer the questionnaire during class time, the investigator arranged a time at which he could administer the questionnaire. The subjects were advised that their participation was voluntary and that their responses were anonymous.

### Instruments

Data was collected using two self-administered questionnaires. Alcohol and Other Drug Usage was measured by the Core Alcohol and Drug Survey (Presley, Meilman, & Lyster, 1994). The questionnaire was developed in 1988 to address and investigate alcohol and drug use on all types of college campuses and environments. The Core Alcohol and Drug survey has been administered to approximately 1,000,000 college students on over 800 college campuses in the United States. Content-related validity was established for .90 for item inclusion. Test-retest reliability was reported at .98 and Cronbach's alpha was reported at .61.

Demographic items that were utilized from this survey included classification, age, ethnic origin, gender, current residence, grade point average, member of a fraternity or sorority. Alcohol and other drug items that were utilized on the survey for this study included binge drinking, average number of drinks, how often have they used different types of drugs, and the consequences from drinking and other drug use. Additional questions that were utilized were reasons for alcohol and other drug use, extent of problems at school, and the importance of participating in some activities at college.

Life satisfaction was measured by the Satisfaction With Life Scale (SWLS). The Satisfaction with Life Scale (SWLS) was developed by Diener, Emmons, Larsen and Griffin (1984) to measure global life satisfaction, or satisfaction with one's life as a

whole rather than with specific life domains. This scale consists of five items. The scale is a 7 point Likert Scale ranging from (7) agree to (1) disagree with each of the items. The SWLS has consistently shown strong internal consistency (Cronbach's  $\alpha = 0.87$ ). Higher numbers of the SWLS indicate greater self-report of life satisfaction

In order to determine if the students participated in recreational sports, a definition of intramural sports was given on the questionnaire. The definition of intramural sports participation has been reviewed and utilized in a study by Kiger (1996) Students determined their level of participation by checking yes or no to the question of participation in intramural sports and the amount of time that they participate on the following question.

### Data Analysis

#### Alcohol and Other Drug Use

The design of this study incorporates two questionnaires that were completed by undergraduate students selected from a large southeastern university. The demographic data from the questionnaire were analyzed using descriptive statistics. The demographic variables in this study included classification, age, ethnicity, gender, residence, grade point average, and member of a fraternity or sorority. Chi-square analysis was utilized to examine differences between the categories. Further information obtained from this study included participation level in intramural sports. Intramural sport participation was measured on a scale ranging from one hours or less per month to five hours or more per week

Chi-square analysis was utilized to examine difference in binge drinking and average number of drinks consumed in a week. The dependent variables were binge drinking and the average number of drinks consumed in a week and the independent

variables was the two groups, intramural and non-intramural sport participants. Chi-square analysis was utilized to test for significant differences between usage of alcohol, marijuana, cocaine, inhalants, and cigarettes. The dependent variables were alcohol, marijuana, cocaine, inhalants, and cigarettes, and the independent variable were the two groups, intramural and non-intramural sport participants. Finally, chi-square analysis was utilized to test the differences for the reasons of alcohol or other drug use between the two groups. The reasons for alcohol and other drug use were the dependent variable and the independent variable was the two groups, intramural and non-intramural sport participants. The data was analyzed using a .05 level of significance.

Descriptive statistics was utilized for the questions concerned with to what extent is the behavior a problem, how important is it for a person to participate in the following activities, and the consequences of alcohol and other drug use separately for each of the two groups, intramural and non-intramural sport participants.

#### Life Satisfaction

For life satisfaction, means and standard deviations were calculated for each of the items. The life satisfaction score comprised of the sum for each of the items. These scores were distributed among intramural and non-intramural sport participants. An independent t-test was utilized to test for the mean difference of the SWLS scale between the 2 groups, intramural and non-intramural sport participants. The data was analyzed using a .05 level of significance.

#### Alcohol and Other Drug Use and Life Satisfaction among Intramural Sport Participants

In the relationship between binge drinking and life satisfaction among intramural sport participants, the subjects were placed into the categories of no and yes. The category of no were the students who checked none on the survey to this question. The



category of yes were the students who checked once, twice, 3 to 5 times, and 6 or more times on the survey. The mean scores of reported life satisfaction were calculated for the students in each of these categories. An independent t-test was utilized to test for the mean difference between the 2 categories. The data was analyzed using a .05 level of significance.

In the relationship between average number of drinks consumed in a week and life satisfaction among intramural sport participants, the subjects were placed into the categories of None, 1-4, and 5 to 10, or 11 or more, according to their responses on the survey. The mean scores of reported life satisfaction were calculated for the students in each of these categories. An analysis of variance was utilized to test for the mean difference between the 4 categories. The data was analyzed using a .05 level of significance.

In the relationship between usage of alcohol, cocaine, marijuana, inhalants, and cigarettes among intramural sport participants, the subjects were placed into the categories of never, used but not in the past 12 months, used but not in the past 30 days, and current use, according to their responses on the survey. Current use was defined as using a substance at least once during the past 30 days preceding the survey, and this corresponds with the answer of used in the past 30 days on the survey. The mean scores of reported life satisfaction were calculated for the students in each of these categories. An analysis of variance was utilized to test for the mean difference between the 4 categories. The data was analyzed using a .05 level of significance.

### Pilot Test

A pilot test was conducted to confirm the administrative procedures and survey comprehensibility. Students from a recreation class were selected for the pilot test. The purpose of the pilot study was to: 1) Sharpen the specificity of the research hypotheses, and 2) Implement data analysis techniques planned for the study. After administering the questionnaire to the pilot group, the data analysis techniques utilized by the researcher was implemented.

## CHAPTER 4

### RESULTS AND DISCUSSION

The purpose of this chapter is to present the results of the data analysis. Chapter four includes the presentation, discussion, analysis, and interpretation of the responses to the study's questionnaire. The purpose of this study was to 1) compare the frequency, quantity, and reasons for alcohol and other drug use between intramural and non-intramural sport participants, 2) compare the perceptions of reported life satisfaction between intramural and non-intramural sport participants, and 3) examine the relationship between alcohol and other drug usage and perceptions of life satisfaction among intramural sport participants. This chapter is organized into the following sections. 1) demographics, 2) level of participation in intramural sports, 3) alcohol and other drug use, 4), alcohol and other drug use consequences, 5) reasons for alcohol and other drug use, 6) life satisfaction among intramural and non-intramural sport participants, and 7) relationship between alcohol and other drug use and life satisfaction among intramural sport participants

#### Sample Demographics

The subjects for this study were undergraduate students 18 to 25 years of age. The sample was taken from five sections of Personal and Family Health (N = 369) and four sections of Medical Terminology (N = 350). The total sample size was 719. There were approximately 400 students in the 5 sections of the personal and family health classes and 400 students in the 4 sections of the medical terminology courses for a total of 800. Of the 800 students that were given a survey in each class, 73 students chose not to participate because they did not want to or they had filled out the survey in an earlier

class. Another 11 surveys were excluded for being incomplete, for a response rate of 89%.

The subjects were divided into intramural and non-intramural sport participants. There were 268 (37.27%) intramural sport participants and 451 (62.73%) non-intramural sport participants. For the intramural sport participants, there were 37.69% freshmen, 22.76 % sophomores, 23.51% juniors, 14.18% seniors, and 1.87% 5<sup>th</sup> year or beyond. For the non-intramural sport participants, there were 28.16% freshmen, 25.28% sophomores, 26.16% juniors, 17.29% seniors, and 3.10% 5<sup>th</sup> year or beyond. The chi-square analysis revealed no significant difference between the intramural and non-intramural sport participants, ( $X^2 = 7.71$ ,  $df = 4$ ,  $p = .09$ ). The results for the classification are presented in Table 1.

Table 1  
Intramural and Non-Intramural Sport Participation by Classification

Classification	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		$X^2$	p
	%	N	%	N		
Freshman	38.06	102	28.16	127	7.71	.09
Sophomore	22.76	61	25.50	115		
Junior	23.13	62	25.94	117		
Senior	14.18	38	17.29	78		
5 <sup>th</sup> year or beyond	1.87	5	3.10	14		

The subjects' ages are listed in Table 2. For the intramural sport participants, there were 22.01% 18 years old, 31.72% 19 years old, 22.01% 20 years old, 11.19% 21 years old, 8.58% 22 years old, and 4.48% who selected other. For the non-intramural

sport participants, there were 19.51% 18 years old, 25.06% 19 years old, 24.61% 20 years old, 15.96% 21 years old, 5.99% 22 years old, and 8.87% who selected other. The chi-square analysis showed a significant difference in age between the intramural and non-intramural sport participants, ( $\chi^2 = 12.51$ ,  $df = 5$ ,  $p = .03$ .) Post hoc analysis revealed that 1) there was a higher percentage of intramural sport participants who were 19 as compared to non-intramural sport participants, 2) there were a higher percentage of non-intramural sport participants who were 21 as compared to intramural sport participants, and 3) there were a higher percentage of non-intramural sport participants who reported their age as other as compared to non-intramural sport participants. The results for the subjects' age are presented in Table 2.

Table 2

## Intramural and Non-Intramural Sports Participation by Age

Age	Intramural Sport Participant (N = 268)		Non-Intramural Sport Participant (N = 451)		$\chi^2$	p
	%	N	%	N		
18	22.01	59	19.51	88	12.51	.03*
19	31.72	85	25.06	113	*	
20	22.01	59	24.61	111		
21	11.19	30	15.96	72	*	
22	8.58	23	5.99	27		
Other	4.48	12	8.87	40	*	

\*  $p < .05$ \*\*  $p < .01$ 

Ethnicity was reported for the subjects. For the intramural sport participants, there were 6.34% Asian/Pacific Islanders, 8.96% Blacks, 8.21% Hispanics, 72.76% Whites, and 3.74% who selected American Indian/Alaskan Native or other. For the non-

intramural sport participants, there were 9.98% Asian/ Pacific Islanders, 13.08% Blacks, 11.53% Hispanics, 63.86% Whites, and 1.55 % who selected American Indian/Alaskan Native or other. The chi-square analysis showed a statistical difference in ethnicity between the intramural and non-intramural sport participants, ( $X^2 = 12.39$ ,  $df = 4$ ,  $p = .03$ .) Post hoc analysis revealed that 1) there were a higher percentage of whites who were intramural sport participants as compared to non-intramural sport participants, and 2) there were a higher percentage of Hispanic and Blacks who were non-intramural sport participants as compared to intramural sport participants. The results for ethnicity are presented in Table 3.

Table 3

Intramural and Non-Intramural Sports Participation by Ethnicity

Ethnicity	Intramural Sport Participant (N = 268)		Non-Intramural Sport Participant (N =451)		$X^2$	p
	%	N	%	N		
Asian/Pacific Islander	6.34	17	9.98	45	12.39	.03*
Black	8.96	24	13.08	59	*	
Hispanic	8.21	22	11.53	52	*	
White	72.76	195	63.86	288	*	
Amer Indian/ Alaskan Native Or Other	3.74	10	1.55	7		

\*  $p < .05$

\*\*  $p < .01$

Gender was reported for the subjects. For the intramural sport participants, there were 42.54% male and 57.46% female. For the non-intramural sport participants, there were 19.96% male and 80.04% female. The chi square analysis revealed a significant

difference in gender between the intramural and non-intramural sport participants, ( $X^2 = 42.18$ ,  $df = 1$ ,  $p = .00$ .) Post hoc analysis revealed that there were a higher percentage of students of intramural sport participants who were males, and a higher percentage of students of non-intramural sport participants who were females. The results for gender are presented in Table 4.

Table 4

## Intramural and Non-Intramural Sports Participation by Gender

Gender	Intramural Sport Participant (N = 268)		Non-Intramural Sport Participant (N = 451)		$X^2$	p
	%	N	%	N		
Male	42.54	114	19.96	90	42.18	.00**
Female	57.46	154	80.04	361	**	

\*  $p < .05$

\*\*  $p < .01$

Residence was reported for the subjects. For the intramural sport participants, 57.09% lived in a house/apartment, 38.06% lived in the residence hall, 3.73% lived in a fraternity/sorority house, and 1.12% who selected approved housing or other. For the non-intramural sport participants, 65.41% lived in a house/apartment, 31.04% lived in the residence hall, 0.22% lived in a fraternity/sorority house, and 0.88% selected approved housing or other. The chi-square analysis did not reveal a significant difference in residence between the two groups, ( $X^2 = 6.32$ ,  $df = 3$ ,  $p = .18$ .) The results for residence are presented in Table 5.

Table 5

## Intramural and Non-Intramural Sports Participation by Residence

Residence	Intramural Sport Participant (N = 268)		Non-Intramural Sport Participant (N = 451)		$X^2$	p
	%	N	%	N		
House/apartment	57.09	153	65.41	295	6.32	.18
Residence Hall	38.06	102	31.04	140		
Fraternity/Sorority	3.73	10	2.66	12		
Approved Housing/ Other	1.12	3	0.89	4		

GPA was reported for the subjects. For the intramural sport participants, 33.21% reported a GPA of 3.51-4.00, 39.55% reported 3.01-3.50, 20.15% reported 2.51-3.00, and 7.09% reported below 2.50. For the non-intramural sport participants, 30.60% reported a GPA of 3.51-4.00, 39.02% reported 3.01-3.50, 23.45% reported 2.51-3.00, and 6.44% reported below 2.50. The chi-square analysis did not reveal a significant difference in GPA between the intramural and non-intramural sport participants, ( $X^2 = 1.67$ ,  $df = 3$ ,  $p = .80$ .) The results for GPA are presented in Table 6.



Table 6

## Intramural and Non-Intramural Sport Participation by GPA

GPA	Intramural Sport Participant (N = 268)		Non-Intramural Sport Participant (N =451)		X <sup>2</sup>	p
	%	N	%	N		
3.51-4.00	33.21	89	30.60	138	1.67	.80
3.01-3.50	39.55	106	39.02	176		
2.51-3.00	20.15	54	23.45	108		
Below 2.50	7.09	19	6.44	29		

Fraternity/Sorority Participation was reported for the subjects. For the intramural sport participants, 30.60% responded that they were in a fraternity/sorority, while 69.40% responded that they were not in a fraternity/sorority. For the non-intramural sport participants, 16.85% responded that they were in a fraternity/sorority, while 83.15% responded that they were not in a fraternity/sorority. The chi-square analysis revealed a significant difference in fraternity/sorority participation between the intramural and non-intramural sport participants, ( $X^2 = 18.52$ ,  $df = 1$ ,  $p = .00$ .) Post-hoc analysis revealed that there was a higher percentage of students who were involved in a fraternity/sorority for the intramural sport participants as compared to non-intramural sport participants. The results for fraternity/sorority are presented in Table 7.

Table 7

## Intramural and Non-Intramural Sport Participation by Fraternity/Sorority

Fraternity/Sorority	Intramural Sport Participant (N = 268)		Non-Intramural Sport Participant (N = 451)		X <sup>2</sup>	p
	%	N	%	N		
Yes	30.60	82	16.85	76	18.52**	.00**
No	69.40	186	83.15	375	**	

\* p &lt; .05

\*\* p &lt; .01

Level of Participation in Intramural Sports

The levels of participation in intramural sports were measured for participants who checked "yes" regarding whether they participate in intramural sports. Subjects who checked "yes" were then asked to report their level of participation. The respondents were given six choices as to levels of participation. The six choices were: 1) one hour or less per month, 2) two to three hours per month, 3) one hour per week, 4) two to three hours per week, 5) four to five hours per week, and 6) more than five hours per week. Table 8 reports the descriptive statistics for the levels of participation of the intramural sport participants. Of those who participated in intramural sports (N = 268), 5.60% participated less than 1 hour/month, 14.93% participated 2 to 3 hours/month, 16.42% participated 1 hour/week, 38.06% participated 2 to 3 hours/week, 12.31% participated 4 to 5 hours/week, and 12.69% participated 5 hours/week. A majority of the intramural sport participants reported their level of participation at 1 to 3 hours per week (54.48%).

Table 8  
Intramural Level of Participation by hours (N = 268)  
Participation Level      Number      %

< 1 hour/month	15	5.60
2 -3 hours/month	40	14.93
1 hour/week	44	16.42
2-3 hours/week	102	38.06
4-5 hours/week	33	12.31
> 5 hours/week	34	12.69
Total	268	100.00

#### Binge Drinking

Subjects were asked to respond to a question concerning binge drinking. Binge drinking was defined as five or more drinks in one sitting in the past two weeks. For male students, it is defined as those who have consumed  $\geq 5$  drinks of alcohol in a row and female students who have consumed  $\geq 4$  in a row in one sitting. For the intramural sport participants, 45.15% reported no binge drinking. However, 17.54% reported that they had binged both once and twice, 15.30% reported 3 to 5 times, and 4.37% reported 6 or more times. This comes to a total of 54.85% who reported binge drinking at least once in the two weeks prior to the survey. For the non-intramural sport participants, 60.09% reported that they did not binge drink, 11.97% reported binge drinking once, 11.31% reported twice, 12.64% 3 to 5 times, and 3.99% reported 6 or more times. This comes to a total of 39.91% who reported binge drinking at least once in the two weeks prior to the survey. Chi square analysis revealed a significant difference between the 2 groups ( $X^2 = 16.78$ ,  $df = 4$ ,  $p = .00$ .) Post hoc analysis revealed that there was a higher percentage of no binge drinking among the non-intramural sport participants as compared to the intramural sport participants, (60% vs. 45%). In addition, intramural sport participants

had a higher percentage of binge drinking episodes for once and twice as compared to non-intramural sport participants. The data for binge drinking is located in Table 9.

Table 9  
Binge Drinking

Binge Drinking	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		X <sup>2</sup>	p
	%	N	%	N		
None	45.15	121	60.09	271	16.78**	.00**
Once	17.54	47	11.97	54	*	
Twice	17.54	47	11.31	51	*	
3 to 5 times	15.30	41	12.64	57		
6 or more times	4.47	12	3.99	18		

\* p < .05

\*\* p < .01

#### Average Number of Drinks

The subjects were asked to respond to the question about the average number of drinks consumed in a week. For the intramural sport participants, 29.48% reported that they did not drink in the previous week, 40.30% reported that they averaged 1 to 4 drinks per week, 18.66% reported that they averaged 5 to 10 drinks per week, and 11.57% reported that they averaged 11 or more drinks per week. For the non-intramural sport participants, 41.46% reported that they did not drink in the previous week, 37.03% reported that they averaged 1 to 4 drinks per week, 15.52% reported that they averaged 5 to 10 drinks per week, and 5.49 reported that they averaged 11 or more drinks per week. Chi square analysis revealed a significant difference between the 2 groups ( $X^2 = 14.48$ ,  $df = 3$ ,  $p = .00$ .) Post hoc analysis revealed that non-intramural sport participants had a

higher percentage of no drinks per week as compared to intramural sport participants, and intramural sport participants had a higher percentage of weekly consumption of 11 or more drinks per week as compared to the non-intramural sport participants. The data for the average number of drinks is presented in Table 10.

Table 10  
Average Number of Drinks

Average Number of Drinks	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		X <sup>2</sup>	p
	%	N	%	N		
None	29.48	79	41.46	187	14.48**	.00**
1 to 4	40.30	108	37.03	167		
5 to 10	18.66	50	15.52	70		
11 or more	11.57	31	5.49	27	**	

\* p < .05

\*\* p < .01

#### Alcohol and Other Drug Use

Subjects were asked how often they used any of the drugs listed on the survey. For this study, the items that were studied were alcohol, cigarettes, marijuana, inhalants, and cocaine. For the intramural sport participants, 10.07% reported that they had never used alcohol, 4.10% reported that they had used alcohol but not in the past 12 months, 10.82% reported that they had used alcohol but not in the past 30 days, and 75.00% reported that they had used alcohol in the past 30 days. For the non-intramural sport participants, 12.64% reported that they had never used alcohol, 6.21 % reported that they had used alcohol but not in the past 12 months, 14.63 % reported that they had used alcohol but not in the past 30 days, and 66.52 % reported that they had used alcohol in the

past 30 days. Chi square analysis revealed no significant difference between the 2 groups ( $X^2 = 5.90$ ,  $df = 3$ ,  $p = .11$ .) The data for alcohol use is presented in Table 11.

Table 11

How often have you used Alcohol?

Frequency of Use	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		$X^2$	p
	%	N	%	N		
Never	10.07	27	12.64	57	5.90	.11
Used but not in past 12 months	4.10	11	6.21	28		
Used but not in past 30 days	10.82	29	14.63	66		
Current Use	75.00	201	66.52	300		

Data was collected for cigarette use. For the intramural sport participants, 56.72 % reported that they had never used cigarettes, 19.03 % reported that they had used cigarettes but not in the past 12 months, 8.21% reported that they had used cigarettes but not in the past 30 days, and 16.04 % reported that they had used cigarettes in the past 30 days. For the non-intramural sport participants, 54.99% reported that they had never used cigarettes, 13.53 % reported that they had used cigarettes but not in the past 12 months, 9.98 % reported that they had used cigarettes but not in the past 30 days, and 21.51 % reported that they had used alcohol in the past 30 days. Chi square analysis revealed no significant difference between the 2 groups ( $X^2 = 6.50$ ,  $df = 3$ ,  $p = .09$ .) The data for cigarette use is located in Table 12

Table 12

How often have you used Cigarettes?

Frequency of Use	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		$X^2$	p
	%	N	%	N		
Never	56.72	152	54.99	248	6.50	.09
Used but not in past 12 months	19.03	51	13.53	61		
Used but not in past 30 days	8.21	22	9.98	45		
Current Use	16.04	43	21.51	97		

Data was also collected for marijuana use. For the intramural sport participants, 55.22 % reported that they had never used marijuana, 14.93 % reported that they had used marijuana but not in the past 12 months, 11.57 % reported that they had used marijuana but not in the past 30 days, and 18.28 % reported that they had used marijuana in the past 30 days. For the non-intramural sport participants, 53.66 % reported that they had never used marijuana, 12.42 % reported that they had used marijuana but not in the past 12 months, 14.86 % reported that they had used marijuana but not in the past 30 days, and 19.07 % reported that they had used marijuana in the past 30 days. Chi square analysis revealed no significant difference between the 2 groups ( $X^2 = 2.25$ ,  $df = 3$ ,  $p = .52$ .) The data for marijuana use is presented in Table 13.

Table 13

How often have you used Marijuana?

Frequency of Use	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		$\chi^2$	p
	%	N	%	N		
Never	55.22	148	53.66	242	2.25	.52
Used but not in past 12 months	14.93	40	12.42	56		
Used but not in past 30 days	11.57	31	14.86	67		
Current Use	18.28	49	19.07	86		

Data was collected for inhalant use. For the intramural sport participants, 89.18 % reported that they had never used inhalants, 4.48 % reported that they had used inhalants but not in the past 12 months, 3.73 % reported that they had used inhalants but not in the past 30 days, and 2.61 % reported that they had used inhalants in the past 30 days. For the non-intramural sport participants, 84.26% reported that they had never used inhalants, 6.87 % reported that they had used cigarettes but not in the past 12 months, 6.87 % reported that they had used inhalants but not in the past 30 days, and 2.00 % reported that they had used inhalants in the past 30 days. Chi square analysis revealed no significant difference between the 2 groups ( $\chi^2 = 5.29$ ,  $df = 3$ ,  $p = .15$ .) The data for inhalant use is presented in Table 14.



Table 14

How often have you used Inhalants?

Frequency of Use	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		X <sup>2</sup>	p
	%	N	%	N		
Never	89.18	239	84.26	380	5.29	.15
Used but not in past 12 months	4.48	12	6.87	31		
Used but not in past 30 days	3.73	10	6.87	31		
Current Use	2.61	7	2.00	9		

Data was collected for cocaine use. For the intramural sport participants, 95.15% reported that they had never used cocaine, 3.36 % reported that they had used cocaine but not in the past 12 months, and 1.49 % reported that they had used cocaine within the past year. For the non-intramural sport participants, 94.68% reported that they had never used cocaine, 2.00 % reported that they had used cocaine but not in the past 12 months, 1.77 % reported that they had used cocaine but not in the past 30 days, and 3.32 % reported that they had used cocaine within the past year. Chi square analysis revealed no significant difference between the 2 groups, ( $X^2 = 3.82$ ,  $df = 2$ ,  $p = .28$ .) The data for cocaine use is presented in Table 15.

Table 15  
How often have you used Cocaine?

Frequency of Use	Intramural Sport Participants (N = 268)		Non-Intramural Sport Participants (N = 451)		$\chi^2$	p
	%	N	%	N		
Never	95.15	255	94.68	427	3.82	.28
Used but not in past 12 months	3.36	9	2.00	9		
Used but not in the Past 30 days/ Current Use	1.49	4	3.32	9		

#### Alcohol and Other Drug Use Consequences

The subjects were asked to respond on how many times they have experienced consequences in the past year due to alcohol and other drug use. The data for alcohol and other drug-related consequences are located in Table 16 and 17 for the intramural and non-intramural sport participants. The only finding that was significant between the two groups was performing poorly on a test, ( $\chi^2 = 13.31$ ,  $df = 1$ ,  $p = .02$ ).

Table 16

Intramural sport participation frequency of alcohol or drug-related consequences (N =268)

"How often have you experienced the following due to your drinking or drug use during the past year?"

	Never		Once	Twice	3-5 times	6-9 times	10 + times	X <sup>2</sup>	p
a) Had a hangover	32.09	13.81	10.82	18.28	11.57	13.43		6.17	.29
b) Performed poorly on a test	68.28	13.43	6.72	8.21	0.75	2.61		13.31	.02
c) Been in trouble with police, res. hall	88.43	8.58	1.87	1.12	-----	-----		.59	.89
d) Damaged property	90.67	4.48	2.24	1.12	1.49	-----		10.56	.06
e) Got into a fight or argument	73.88	8.58	6.72	8.58	1.49	0.75		3.77	.58
f) Vomited	39.93	17.54	15.67	18.28	4.85	3.73		6.44	.26
g) Driven a car while under the influence	60.45	11.19	8.58	9.70	3.73	6.34		1.09	.95
h) Missed a class	49.25	11.57	10.07	13.43	5.97	9.70		6.34	.27
i) Been criticized by someone I know	58.96	14.18	9.33	10.82	3.36	3.36		5.22	.39
j) Thought I might be a drinking or other drug problem	90.67	3.73	2.24	1.49	0.75	1.12		6.71	.24
k) Had a memory loss	66.79	17.16	7.09	5.22	2.24	1.49		5.61	.35
l) Done something I later regretted	55.60	18.66	10.45	10.07	2.24	2.99		2.59	.76
m) Been arrested DUI/DWI	98.51	0.75	-----	-----	0.37	0.37		3.98	.41
n) Have been taken Advantage of sexually	90.67	5.22	2.61	0.75	-----	0.75		1.09	.89
o) Have taken advantage of another sexually	97.76	1.12	0.37	-----	-----	0.75		1.19	.76
p) Tried unsuccessfully to Stop using	95.52	1.12	0.75	1.49	0.37	0.00		1.57	.91
q) Been hurt or injured	86.94	6.72	2.61	2.99	0.75	-----		3.19	.67
r) Had unexpected or unplanned sex	82.09	7.46	2.61	5.97	1.49	0.37		7.54	.18
s) Had unprotected	83.96	4.85	4.85	3.36	0.75	2.24		7.11	.21
t) Required medical attention for an overdose	98.13	1.12	0.37	-----	0.37	-----		2.95	.39
u) Argued with friend	63.81	13.06	10.45	7.46	1.12	4.10		2.48	.78
v) Fell behind in academic work	69.78	11.57	6.72	7.84	1.87	2.24		10.29	.06

Table 17

Non-Intramural sport participation frequency of alcohol or drug-related consequences (N =451)

"How often have you experienced the following due to your drinking or drug use during the past year?"

	Never	Once	Twice	3-5 times	6-9 times	10 + times
a) Had a hangover	37.47	10.86	10.86	19.07	7.32	14.41
b) Performed poorly on a test	76.72	6.65	6.21	7.76	1.55	1.11
c) Been in trouble with police, res. hall	90.24	7.32	1.55	0.89	-----	-----
d) Damaged property	93.57	2.88	0.44	2.44	0.44	0.22
e) Got into a fight or argument	77.61	8.65	5.10	5.99	1.11	1.55
f) Vomited	46.34	15.30	10.86	17.07	4.88	5.54
h) Driven a car while under the influence	62.97	10.64	6.65	9.76	3.55	6.43
h) Missed a class	58.54	8.65	8.20	11.97	5.32	7.32
i) Been criticized by someone I know	65.85	11.97	8.43	6.87	3.55	3.33
j) Thought I might have a drinking or other drug problem	93.79	2.44	1.11	0.22	0.89	1.55
k) Had a memory loss	72.51	11.31	6.65	5.32	2.00	2.22
l) Done something I later regretted	60.98	16.19	8.20	9.09	2.22	3.33
m) Been arrested DUI/DWI	99.11	0.67	0.22	-----	-----	-----
n) Have been taken Advantage of sexually	91.57	5.10	1.77	1.11	-----	0.44
o) Have taken advantage of another sexually	98.00	1.33	0.44	-----	-----	0.22
p) Tried unsuccessfully to stop using	95.57	1.55	0.67	1.77	0.22	0.22
q) Been hurt or injured	85.37	6.21	3.77	3.10	0.67	0.89
r) Had unexpected or unplanned sex	84.26	7.76	2.88	2.66	0.89	1.55
s) Had unprotected sex	87.14	4.88	1.77	2.22	1.33	2.66
t) Required medical attention for an overdose	99.33	0.44	0.22	-----	-----	-----
u) Argued with friends	68.74	10.64	9.98	6.87	0.67	3.10
v) Fell behind in work	75.39	5.32	6.65	7.98	1.33	3.33

### Reasons For Using Alcohol or Other Drugs

The subjects were asked their reasons for using alcohol and other drugs. For the intramural sport participants, 81.72% reported to have fun was their reason for alcohol and other drug use, 46.27% reported to get high or drunk, 45.90% reported to relieve academic stress, 57.84% to relieve other stress, and 58.96% reported to ease social interactions. As for the non-intramural sport participants, 75.83 % reported to have fun was their reason for alcohol and other drug use, 43.46 % reported to get high or drunk, 41.24 % reported to relieve academic stress, 55.88 % to relieve other stress, and 54.55% reported to ease social interactions. For each of the reasons listed in the table, there was no significant difference found between the intramural and non-intramural sport participants at the .05 level. The data for the reasons for alcohol and other drug use is presented in Table 18.

Table 18

Reasons for using alcohol or other drugs

Reason	Intramural Sport Participant (N = 268)	Non-Intramural Sport Participant (N = 451)		
	%	%	X <sup>2</sup>	p
To have fun	81.72	75.83	3.40	.07
To get high or drunk	46.27	43.46	0.54	.46
To relieve academic stress	45.90	41.24	1.49	.22
To relieve other stress	57.84	55.88	0.26	.61
To ease social interactions	58.96	54.55	1.33	.25

### Life Satisfaction between Intramural and Non-Intramural Sport Participants

Life satisfaction was measured by utilizing the Satisfaction With Life Scale developed by Diener (1984). An independent t-test was conducted to test for a significant difference between the two groups. The results showed that intramural sport participants reported a significantly higher life satisfaction than the non-intramural sport participants, ( $t = 2.26$ ,  $df = 1$ ,  $p = .02$ .) The results for life satisfaction between intramural and non-intramural sport participants are presented in Table 19.

Table 19

Life Satisfaction Mean Scores by Levels of Participation

Life Satisfaction	Intramural Sport Participants (N = 268)	Non-Intramural Sport Participants (N = 451)	t-score	p
Overall Mean Score	27.21	26.29	2.26	.02*

\*  $p < .05$

Relationship between Alcohol Use and Life Satisfaction among  
Intramural Sport Participants

Binge Drinking and Life Satisfaction among Intramural Sport Participants

This study also investigated the relationship of alcohol and other drug use and life satisfaction among the intramural sport participants. The results between binge drinking and life satisfaction are shown in Table 20. Table 20 lists those who have never binged compared to those who have binged at least once. An independent t-test was utilized to test for mean differences of life satisfaction between the two different levels of binge drinking. The life satisfaction score was 26.77 for those who did not binge drink, and 27.57 for those who had binged at least once within the past two weeks. The mean difference was not found to be significant, ( $t = 1.53$ ,  $df = 1$ ,  $p = .22$ .)

Table 20

Relationship between Binge Drinking and Life Satisfaction among Intramural Sport Participants (N = 268)

Binge Drinking	Life Satisfaction			
	Mean	N	t-score	p
None	26.78	121	1.53	.22
At least once	27.57	147		

### Average Number of Drinks and Life Satisfaction among Intramural Sport Participants

The relationship of the average number of drinks consumed in a week and life satisfaction was tested. Analysis of variance was utilized for mean differences between the different levels for the average number of drinks consumed in a week. The life satisfaction score was 27.39 for those who averaged no drinks per week, 26.55 for those who averaged 1 to 4 drinks per week, 28.06 who averaged 5 to 10 drinks per week, and 27.71 who averaged 11 or more per week. There was no significant difference between the different levels for the average number of drinks consumed in a week, ( $F = 1.14$ ,  $df = 3$ ,  $p = .33$ .) The results for the average number of drinks consumed and life satisfaction are presented in Table 21.

Table 21

Relationship between Average Number of Drinks and Life Satisfaction among Intramural Sport Participants (N= 268)

Average number of Drinks in a week	Life Satisfaction			
	Mean	N	F	p
None	27.39	79	1.14	.33
1-4	26.55	108		
5 to 10	28.06	50		
11 or more	27.71	31		



### Alcohol Use and Life Satisfaction among Intramural Sport Participants

The relationship of alcohol use and life satisfaction was tested. Analysis of variance was utilized for mean differences between the different levels of alcohol usage. The life satisfaction score was 27.78 for those who never consumed alcohol, 28.18 for those who had used alcohol but not in the past 12 months, 27.86 for those who had used alcohol but not in the past 30 days, and 26.99 for those who had used alcohol in the past 30 days. There was no significant difference between the different levels of alcohol use, ( $F = .50$ ,  $df = 3$ ,  $p = .68$ .) The results for alcohol use and life satisfaction are presented in Table 22.

Table 22

Relationship between Alcohol Use and Life Satisfaction among Intramural Sport Participants  
( $N = 268$ )

How often have You used alcohol	Life Satisfaction			
	Mean	N	F	p
Never	27.78	27	.50	.68
Used but not in past 12 months	28.18	11		
Used but not in past 30 days	27.86	29		
Current Use	26.99	201		

### Cigarette Use and Life Satisfaction among Intramural Sport Participants

The relationship of cigarette use and life satisfaction was tested. Analysis of variance was utilized for mean differences between the different levels of cigarette usage. The life satisfaction score was 27.78 for those who never consumed alcohol, 27.37 for those who had used cigarettes but not in the past 12 months, 23.72 for those who had used cigarettes but not in the past 30 days, and 26.77 for those who had used cigarettes in the past 30 days. There was a significant difference between the different levels of cigarette use, ( $F = 4.11$ ,  $df = 3$ ,  $p = .00$ .) Post hoc analysis revealed that those who reported never using cigarettes had a higher life satisfaction as compared to those who were current users of cigarettes or who had used cigarettes but not in the past 30 days. The results for cigarette use and life satisfaction are presented in Table 23.

Table 23

Relationship between Cigarette Use and Life Satisfaction among Intramural Sport Participants

( $N = 268$ )

How often have You used cigarettes?	Life Satisfaction			
	Mean	N	F	p
Never	27.78	152	4.11	.00**
Used but not in past 12 months	27.37	51		
Used but not in past 30 days	23.72	22		
Current Use	26.77	43		

\*  $p < .05$

\*\*  $p < .01$

### Marijuana Use and Life Satisfaction among Intramural Sport Participants

The relationship of marijuana use and life satisfaction was tested. Analysis of variance was utilized for mean differences between the different levels of marijuana usage. The life satisfaction score was 27.58 for those who never used marijuana, 26.73 for those who had used marijuana but not in the past 12 months, 25.87 for those who had used marijuana but not in the past 30 days, and 27.35 for those who had used marijuana in the past 30 days. There was no significant difference between the different levels of marijuana use, ( $F = 1.05$ ,  $df = 3$ ,  $p = .37$ .) The results for marijuana use and life satisfaction are presented in Table 24.

Table 24

Relationship between Marijuana Use and Life Satisfaction among Intramural Sport Participants

(N= 268)

How often have You used marijuana?	Life Satisfaction			
	Mean	N	F	p
Never	27.58	148	1.05	.37
Used but not in past 12 months	26.73	40		
Used, but not in past 30 days	25.87	31		
Current Use	27.35	49		

### Cocaine Use and Life Satisfaction among Intramural Sport Participants

The relationship of cocaine use and life satisfaction was tested. Analysis of variance was utilized for mean differences between the different levels of cocaine usage. The life satisfaction score was 27.37 for those who never used cocaine, 24.00 for those who had used cocaine but not in the past 12 months, 30.00 for those who had used cocaine but not in the past 30 days, and 8.00 for those who had used cocaine in the past 30 days. There was a significant difference between the different levels of cocaine use, ( $F = 6.32$ ,  $df = 3$ ,  $p = .00$ .) Those who never used cocaine had a higher life satisfaction than those who were current users or had used cocaine but not in the past 30 days. However, this finding should be interpreted cautiously because the cell size for the current users or users but not in the past 30 days was less than 5. The results for cocaine use and life satisfaction are presented in Table 25.

Table 25

Relationship between Cocaine Use and Life Satisfaction among Intramural Sport Participants  
( $N = 268$ )

How often have You used cocaine?	Life Satisfaction			
	Mean	N	F	p
Never	27.37	255	6.32	.00**
Used but not in past 12 months	24.00	9		
Used but not in past 30 days/ Current Use	24.50	4		

\*  $p < .05$

\*\*  $p < .01$

### Inhalant Use and Life Satisfaction among Intramural Sport Participants

The relationship of inhalant use and life satisfaction was tested. Analysis of variance was utilized for mean differences between the different levels of inhalant usage. The life satisfaction score was 27.46 for those who never used inhalants, 26.08 for those who had used inhalants but not in the past 12 months, 24.50 for those who had used inhalants but not in the past 30 days, and 24.43 for those who had used inhalants in the past 30 days. There was no significant difference between the different levels of inhalant use, ( $F = 1.94$ ,  $df = 3$ ,  $p = .12$ .) The results for inhalant use and life satisfaction are presented in Table 26.

Table 26

Relationship between Inhalant Use and Life Satisfaction among Intramural Sport Participants  
( $N = 268$ )

How often have You used Inhalants?	Life Satisfaction			
	Mean	N	F	p
Never	27.46	239	1.94	.12
Used but not in past 12 months	26.08	12		
Used but not in past 30 days	24.50	10		
Current Use	24.43	7		

## Discussion

### Research Hypotheses #1 – Alcohol Use Between Intramural and Non-Intramural Sport Participants

This study surveyed students from a convenience sample of personal and family health classes and medical terminology classes from a large southeastern university. Results indicated that 54.85% of the intramural sport participants and 39.09% of the non-intramural sport participants reported binge drinking in the two weeks prior to the survey. The percentage of binge drinking among intramural sport participants appears to be higher than the findings of the 1999 University of Florida study, where 46.3% of the college students reported binge drinking. The findings of the intramural sport participants are also higher than the findings of the Wechsler (1997) and the Core Alcohol Study (Presley et al., 1996) study in which 44% and 41.7% respectively, of the college students reported binge drinking. The percentage of binge drinking among intramural sport participants is also similar to the findings of the Leichter et al. (1998), in which 54.4% of the students involved in athletics reported binge drinking.

This study also examined the average number of drinks between intramural and non-intramural sport participants. The findings were that intramural sport participants reported a higher amount of alcohol use per week as compared to non-intramural sport participants. The study found that 71.52% of the intramural sport participants average more than 1 drink per week, and almost 31% (30.23%) of the intramural sport participants consume more than 5 drinks per week as compared to 21.01% of the non-intramural sport participants. This finding is consistent with the findings of Leichter et al. (1998) study, in which athletes consumed more alcohol per week as compared to non-athletes. The level of drinking among intramural sport participants appears to reflect the overall student population at the University of Florida. The finding of the 1999 University of Florida study indicated that 72.3% of the students reported averaging more than 1 drink per week, and 38.7% reported averaging more than 5 drinks per week.

This study also investigated patterns of alcohol use between intramural and non-intramural sport participants. Results indicated that 75% of the intramural sport participants reported using alcohol in the past 30 days as compared to 66.52% of the non-intramural sport participants. The level of alcohol use among intramural sport participants also appears to reflect the overall student population at the University of Florida. The finding of the 1999 University of Florida study indicated that 76.5% of the college students reported using alcohol in the past 30 days (CADRC, 1999). However, the level of alcohol use among intramural sport participants appears to be higher than the finding of the national studies. Presley et al. (1996) indicated that 69.7% of the students were current alcohol users. Wechsler et al. (1997) also revealed that 58% of the students involved in athletics were current alcohol users. Aaron et al. (1995) found that males who participated in collegiate athletics were significantly more likely to report alcohol usage than those who did not participate in athletic competition.

Binge drinking, average number of drinks, and alcohol consumption by the intramural sport participants in this study appeared to be similar or higher than the general college student population. According to Heyman (1990), psychosocial factors may influence the use of alcohol by an athlete. It has been noted that these factors do not only apply to the collegiate athlete, but high school, professional, and intramural as well. While not actively promoting alcohol use, the sports world has unknowingly influenced and encouraged the use of alcohol by athletes. Young athletes are exposed to alcohol use when attending athletic games, particularly professional games. Victories are celebrated and losses mourned with the use of alcohol (Duda, 1986). All of these factors are telling young athletes, male and female, that alcohol is a part of sports.

Peer pressure may be greater in an athletic population of children or young adults than in a non-athletic population. Athletes are taught to think like a team. Heyman (1990) believes that the age old adage 'there is no "I" in "TEAM"' teaches young athletes that it is their responsibility to do what is best for the team. If members of the group are

using alcohol or other drugs, those athletes who are uncertain on how they feel about alcohol use may be more likely to participate because they are a part of the team (Heyman, 1990). Heyman (1990) also suggested that athletes form their primary friendships with team members. These friendships can help to predispose, enable, or reinforce alcohol use. According to the literature, students participate in intramural sports because 1) they provide individuals with a means of obtaining physical activity, 2) Physical fitness has moral implications, and 3) intramural sports are fun and enhance social skills. It was originally hypothesized that recreational activity might be a means of decreasing alcohol use as well as relieving stress among college students. The findings of this study do not support this hypothesis. It appears that students who participate in intramural sports may be more influenced by peer pressure and the social factors of having fun rather than the other beneficial factors. This was reflected in their binge drinking, weekly consumption, and current use patterns.

#### Research Hypotheses #2 – Other Drug Use Between Intramural and Non-Intramural Sport Participants

This study also investigated the frequency of other drug use between intramural and non-intramural drug use. The finding for cigarette use was that 16.04% of the intramural sport participants were current cigarette users. The percentage of cigarette users among intramural sport participants appears to be lower than the average students at the University of Florida. A 1999 University of Florida study indicated that 28.4% of the students reported cigarette use in the past 30 days (CADRC, 1999). A similar result was reported in a national study (Presley et al., 1996), which indicated that 34.2% of the students were current cigarette users. This result is also supported by the Wechsler et al. (1997) study. They indicated that 15% of the men and 20% of the women who were involved in athletics were current cigarette users. In addition, there were more nonsmokers among intramural sport participants than the average university student at the University of Florida (56.72% vs. 45.4%).



While there were no significant differences of current marijuana use between the intramural (18.28%) and non-intramural sport participants (19.07%), the percentage of current marijuana users in this study appears to be lower than the average student at the University of Florida. The 1999 University of Florida study indicated that 23.5% of the students reported marijuana use in the past 30 days (CADRC, 1999). On the other hand, the percentage of current marijuana users in this study appears to be consistent with the 1996 Core Alcohol Study (Presley et al., 1996), which indicated that 18.6% of the students reported marijuana use in the past 30 days. Based on the findings of this study, it appears that intramural participation may not have a significant advantage of discouraging marijuana use among intramural sport participants.

There were no significant differences of current inhalant use between intramural and non-intramural sport participants (2.61% vs. 2.00%), but the percentage of current inhalant users in this survey appears to be lower than the 1999 University of Florida study, which indicated that 4.5% of the students reported inhalant use in the past 30 days (CADRC, 1999). However, a similar percentage of inhalant use was reported by a national study (Presley et al., 1996) which indicated that 1.0% of the students reported using inhalants in the past 30 days. In addition, 89.18% of the intramural sport participants reported never using inhalants. The percentage of intramural sport participants who never used inhalants appears to be higher than the 1999 University of Florida study, which indicated that only 78.8% of the students reported never using inhalants. The findings of this study appear to show that intramural sport participants are less likely to be inhalant users compared to students at the University of Florida.

Cocaine use was also investigated in this study. The findings were that less than 1% (.37%) of the intramural sport participants and 1.55% of the non-intramural sport participants reported using cocaine in the past 30 days. The percentage of current cocaine users also appears to be lower than the average student at the University of Florida study. The 1999 University of Florida study indicated that 2.1% of the students

reported using cocaine in the past 30 days (CADRC, 1999). Similar results were reported by a national study, (Presley et al., 1996), which indicated that 1.6% of the students reported using cocaine in the past 30 days. In addition, 95.15% of the intramural sport participants and 94.68% non-intramural sport participants reported never using cocaine. The percentage of intramural sport participants who never used cocaine appears to be higher than the 1999 University of Florida study, which indicated that 89.7% of the students reported never using cocaine. It appears that intramural sport participants are not as likely to use cocaine compared to students at the University of Florida.

The findings of other drug use by the intramural sport participants in this study suggested that other drug use is not a significant problem when compared with non-intramural sport participants. More than half of the intramural sport participants reported never using cigarettes or marijuana. In addition, almost 90% of the intramural sport participants reported never using inhalants, and more than 90% of the intramural sport participants reported never using cocaine. Results of this study showed that intramural sport participation may encourage drinking alcohol but it has not caused an increase in the usage of other drugs.

Intramural sport participation tends to be perceived as a social event, therefore it may be more acceptable to consume alcohol for the purpose of having fun. On the other hand, other drug use may be illegal and can be viewed as interfering with performance in sport participation. Page et al. (1998) found that participation in schools sports may serve as a protective factor for not engaging in cigarette smoking and illegal drug use. It appears that sport participation precedes the lowered risk of illegal drug use because the students are likely to avoid drugs that will interfere with their performance. Male and female students who reported participation in both one or two teams and three or more teams were less likely to have engaged in cigarette smoking and illegal drug use than those not on any sports teams (Page et al., 1998). The findings regarding cigarette smoking are similar to those found in another study which showed that students who

participated in interscholastic sports were less likely to be regular smokers (Escobedo et al., 1993). It appears that the lower rates of smoking for students who participate in interscholastic sports may be the result of greater self-confidence from the participation and perceptions of reduced sports performance from smoking.

An explanation for these findings may be that participation in school sports increases opportunities for young people to bond in a pro-social way with peers and their school. Social bonding theorists assert that the availability of bonding opportunities in the school environment may enhance an individual's social bonding and reduces risk-taking behavior (Aaron et al., 1995). Participation in sports may enhance bonding by increasing opportunities for students to feel a sense of belonging, attachment, and participation within their social environment. These feelings may operate as protective factors by buffering stress, enhancing social integration, and decreasing adolescents' risk-taking behavior. It was hypothesized that recreational activity could be a means of decreasing other drug use. The findings of this study do support this hypothesis. It appears that students who participate in intramural sports are less likely to use cigarettes, marijuana, inhalants, and cocaine.

#### Research Hypotheses #3 – Reasons for Alcohol and Other Drug Use Between Intramural and Non-Intramural Sport Participants

This study investigated the reasons for alcohol and other drug use between intramural and non-intramural sport participants. The findings were that among the intramural sport participants, to have fun was the #1 reason for alcohol and other drug use at 81.72%. This reason was followed by the reasons to ease social interactions at 58.96%, relieving other stress at 57.84%, to get high or drunk at 46.27%, and to relieve academic stress at 45.90%. The reasons for alcohol and other drug use appears to be similar for the non-intramural sport participants, in which to have fun was the #1 reason at 75.83%, followed by relieving other stress at 55.88%, easing social interactions at

54.55%, to get high or drunk at 43.46%, and to relieve academic stress 41.24%. The reasons for alcohol and other drug use among intramural sport participants appear to be similar with the average student at the University of Florida. The 1999 University of Florida indicated that to have fun was the #1 reason for alcohol and other drug use at 78.9%, followed by relieving other stress at 63.6%, easing social interactions at 53.85%, relieving academic stress at 48.9%, and getting high or drunk at 47.5% (CADRC, 1999).

The reasons for alcohol and other drug use by the intramural sport participants appear to reflect the overall student population at the University of Florida (CADRC, 1999). When compared to the general population, reasons for alcohol use by athletes may differ depending on age and circumstances. In a study of high school athletes (Green, 1995), some reasons reported for alcohol use were to have a good time with friends, to celebrate, to feel good, and to deal with the pressures of school and athletics. Not surprisingly, collegiate athletes report similar reasons to high school athletes for using alcohol. In a survey of collegiate athletes' drug use, Evans et al. (1992) found that respondents cited three primary reasons for alcohol. Seventy-eight percent said they used alcohol for recreation and social reasons, 47 percent indicated they used alcohol to feel good, and 28 percent said they used alcohol to deal with stress from college life. Their findings are consistent with this study. Results of this study support the notion that the social influence of intramural sports seems to have an influence on the overall reasons of alcohol and other drug use among intramural sport participants.

#### Research Hypotheses #4 – Life Satisfaction Between Intramural and Non-Intramural Sport Participants

This study investigated self-reported life satisfaction between intramural and non-intramural sport participants. The results were that intramural sport participants reported a higher life satisfaction as compared to non-intramural sport participants. It was hypothesized that intramural sport participants would report a higher life satisfaction

when compared to non-intramural sport participants. The findings of this study supported this hypothesis. Through participation and competition in a variety of activities in recreational programs, individuals are provided the medium to improve their athletic, physical and social skills; positively contribute to their education and well-being; and improve their overall self-esteem. Kanters et al. (1997) found that students were participating in recreational programs for the opportunity to challenge themselves, master skills, meet new people, and be recognized for their skills and abilities. The recreational participants reported a greater desire to fulfill their need to achieve, master certain skills, challenge themselves, and compete against other individuals. Participants were also motivated by the need to develop and maintain friendships and gain positive recognition from their peers. Research has shown that students who are involved in recreational activities have been reported to be more satisfied with their college experience and more likely to graduate (Garland, 1985). Additional research by Kovac et al. (1997) found that students who participated in recreation activities produced the highest level of student satisfaction in all aspects of campus life. The findings of this study appear to support the hypothesis that participation in intramural sports leads to a higher level of life satisfaction when compared to non-intramural sport participants.

#### Research Hypotheses #5 – Relationship between Alcohol and Other Drug Use and Life Satisfaction Among Intramural Sport Participants

This study also investigated the relationship between alcohol and other drug use and life satisfaction among intramural sport participants. The findings were categorized into binge drinking, average number of drinks per week, and alcohol and other drug use with life satisfaction. There was no significant difference in the relationship between binge drinking, average number of drinks, and alcohol use and life satisfaction among intramural sport participants.

Contrary to the general belief that intramural sport participation may be beneficial in reducing alcohol abuse, the findings of this study indicated the trend that intramural

sport participants report a high life satisfaction while engaging in high risk behaviors such as binge drinking, and high weekly consumption of alcohol, but the relationship was not found to be significant. An explanation for these results may be that binge drinking and alcohol use seem to be part of the risk taking characteristic common among those who participate in athletic competition (Rainey, McKeown, Sargent, & Valois, 1996). Students participate in intramural sports because they want to master certain skills, challenge themselves, and compete against other individuals. Students are also motivated by the need to develop and maintain friendships and gain positive recognition from their peers (Kanters et al., 1997). It appears that being in the social environment of intramural sports and the sense of belonging with teammates who like to use alcohol influences life satisfaction more than the healthy behavior of no binge drinking and low weekly consumption of alcohol, but the findings were not significant.

On the other hand, results of this life satisfaction study support the trend that intramural sport participants who report a high life satisfaction were less likely to engage in risk behaviors such as usage of cigarettes and cocaine. In the relationship between cigarette use and life satisfaction among intramural sport participants, those who had never smoked cigarettes reported a higher life satisfaction as compared to those who were current users of the substance. An explanation for this findings could be that an intramural sport participant who is more satisfied with their life is less likely to engage in cigarette smoking, because of the harmful effects that it may have on athletic performance as well as it not being socially acceptable by intramural sport participants.

This explanation may also be appropriate for the relationship of cocaine use and life satisfaction relationship. In the relationship between cocaine use and life satisfaction among intramural sport participants, those who had never used cocaine reported a higher life satisfaction as compared to those who were current users. In addition to the harmful effect that cocaine may have on athletic performance, it is illegal and may not part of the social environment of the intramural sport participants.

The findings on the relationship between alcohol and other drug use and life satisfaction among intramural sport participants revealed two different trends. First, intramural sport participants who report a high life satisfaction were more likely to engage in binge drinking and consume a high number of drinks per week, but the relationships were not found to be significant. Second, intramural sport participants who report a high life satisfaction were less likely to use cigarettes and cocaine. Since there is no consistent trend for this relationship, more studies are needed to further examine the relationship of alcohol and other drug use and life satisfaction.

It is difficult to explain whether the intramural sport participants reported a high life satisfaction because of their low usage of cigarettes and cocaine, or whether their low usage of these substances contributed to a high life satisfaction. In addition, it is also difficult to explain whether intramural sport participants reported a high life satisfaction because of their high percentage of binge drinking episodes, high weekly consumption of alcohol, and high alcohol use, or did the high percentage of alcohol use contribute to high life satisfaction. The inconsistent relationship between life satisfaction and alcohol and other drug use among college students who participated in intramural sports indicates a need for further studies. Other research also revealed a conflicting result on the relationship of alcohol and other drug use and life satisfaction (Newcomb et al., 1986).

Furthermore, the results of this study indicated that although the usage of illicit drugs such as marijuana and cocaine continues on college campuses, alcohol abuse is still the most urgent and complicated substance abuse problem on college campuses (Bower et al., 1999). The results of this study also indicated that the reasons for alcohol and other drug use are similar to that of other studies, which included to have fun, relieve academic stress, and to ease their social interactions (CADRC, 1999; Presley et al., 1996).

A strength of this study is that it bridges a gap in research that has not yet been explored. First, it investigates the frequency, quantity, and reasons for alcohol and other drug use among intramural sport participants. Previous studies have investigated alcohol

use among college students, and some studies have investigated alcohol and other drug use among college athletes, however few have investigated alcohol and other drug use among intramural sport participants. Intramural sports is a unique concept because any student in college is able to participate. Some students may have competed in high school, but did not want to play on a collegiate team. Other students may be participating on an intramural sport team for the first time while they are in college. The reasons why students participate in intramural sports may vary from providing individuals with a means of physical activity to having fun and enhancing their social skills to learning the social values of competition.

When students participate on an athletic team, they may be influenced by their teammates to engage in certain behaviors. That is because of the peer pressure or influence that the athletic population has. Athletes are taught to think like a team. If members of the team are using alcohol or other drugs, the athletes who are uncertain on how they feel about alcohol and other drug use may be more likely to participate and engage in those behaviors because they feel that they are part of the team. In addition, Heyman (1990) suggests that athletes form their primary friendships with team members. Teammates can have a big influence on alcohol and other drug use. That is why it is important to investigate the usage of alcohol among intramural sport participants, to see if the frequency, quantity and reasons are similar to the general college student population as well as the athletic population.

A few limitations in this study are worth noting. First, the classification of respondents into the two categories of intramural and non-intramural sport participants was based on the students' self-reports. Some students may have misinterpreted the definition of intramural sports. Second, this study is limited by the use of a convenient sample. Although university courses were used to gather all of the data, a random sample may yield different results. Third, the CORE Alcohol and Drug survey required the students to provide sensitive information about their substance use and involvement in



illegal acts, such as perpetrating sexual violence and driving while intoxicated. However, the survey questionnaires were anonymous to protect the students' identity. Fourth, it is important to note that the questions about consequences and reasons from alcohol and other drug use referred to the consequences and reasons from all forms of substance, not just those that were alcohol related. Because alcohol is the most widely used among college students, it is probable that most of the consequences and reasons reported were alcohol related. Fifth, the study may represent students who are participants in this institutions' intramural program, but may not be nationally represented in other intramural programs.

## CHAPTER 5

### SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

#### Summary

Alcohol and other drug use is a major problem on college campuses. Although the use of illicit drugs continues on college campuses, alcohol abuse is still the most urgent and complicated substance abuse problem on college campuses. The reasons for alcohol and other drug use among college students include to have fun, to relieve academic and other stress, to fit in with friends, and to ease their social interactions. Given the problem of alcohol and other drug use on today's college campus, recreational activity may be an opportunity for decreasing alcohol and other drug use. Participation in intramural sports gives students the opportunity to obtain some kind of physical activity, have fun with their teammates, and enhance their social skills. In addition, participation in intramural sports can enhance the students' collegiate experience leading to a high life satisfaction. Therefore, given the problem of alcohol and other drugs and the impact that intramural sports can have on alcohol and other drug use and life satisfaction, there is need to study the extent of alcohol and other drug use among intramural sport participants, the perceptions of life satisfaction among intramural sport participants, and the relationship between alcohol and other drug use and life satisfaction.

The purpose of this study was to 1) compare the frequency, quantity, and reasons for alcohol and other drug use between intramural and non-intramural sport participants, 2) compare the perceptions of reported life satisfaction between intramural and non-intramural sport participants, and 3) examine the relationship between alcohol and other drug usage and perceptions of life satisfaction among intramural sport participants. Due to the exploratory nature of the study, the following hypotheses were made: 1) There is no difference in alcohol use between intramural and non-intramural sport participants, 2) There is no difference in the frequency of other drug use between intramural and non-intramural sport participants, 3) There is no difference in the percentage of reasons for alcohol and other drug use between intramural and non-intramural sport participants, 4) There is no difference in reported life satisfaction between intramural and non-intramural sport participants, and 5) There is no significant relationship between alcohol and other drug use and life satisfaction among intramural sport participants.

The data was collected from a convenience sample of 719 undergraduate students from personal and family health and medical terminology classes from a large southeastern university. All of the subjects completed 2 surveys, the Core Alcohol and Drug Survey (Presley et al., 1994) and the Satisfaction With Life Scale (Diener et al., 1984). The CORE Alcohol and Drug Survey was developed in 1988 to address and investigate alcohol and drug use on all types of college campuses and environments. The Core Alcohol and Drug survey has been administered to approximately 1,000,000 college students on over 800 college campuses in the United States. Content-related validity was

established for .90 for item inclusion. Test-retest reliability was reported at .98 and Cronbach's alpha was reported at .61.

The survey consisted of 17 items. Demographic items that were utilized from this survey included classification, age, ethnic origin, gender, current residence, grade point average, member of a fraternity or sorority. Alcohol and other drug items that were utilized on the survey for this study included binge drinking, average number of drinks, how often have they used different types of drugs, and the consequences from drinking and other drug use. Additional questions that were utilized are reasons for alcohol and other drug use, extent of problems at school, and the importance of participating in some activities at college (See Appendix A).

The Satisfaction with Life Scale (SWLS) was developed by Diener et al. (1984) to measure global life satisfaction, or satisfaction with one's life as a whole rather than with specific life domains. This scale consists of five items. The scale is a 7 point Likert Scale ranging from (7) agree to (1) disagree with each of the items. The SWLS has consistently shown strong internal consistency (Cronbach's alpha = 0.87). Higher numbers of the SWLS indicate greater self-report of life satisfaction (See Appendix A).

In order to determine if students participate in intramural sports, a definition of intramural sports was given on the questionnaire. The definition of intramural sports participation has been reviewed and utilized in a study by Kiger (1996). Students determined their level of participation by checking yes or no to the question of participation in intramural sports and the amount of time that they participate on the following question.

The researcher collected the data in February and March, 1999. The students were designated into intramural and non-intramural sport participants. A pilot test was conducted to confirm the administrative procedures and survey comprehensibility. Students from a recreation class were selected for the pilot test. After administering the questionnaire to the pilot group, the data was analyzed to make sure the procedures were appropriate. Chi-square analysis, t-tests, and analysis of variance were used to test the research hypotheses. Acceptance of significance was based at the .05 level for all statistical tests.

### Findings

Based on the data analysis and the interpretation of the data, the following findings were reported.

- 1) Intramural sport participants reported higher alcohol usage compared to non-intramural sport participants.
  - a) Intramural sport participants reported a higher percentage of binge drinking episodes for once and twice as compared to the non-intramural sport participants.
  - b) Non-intramural sport participants had a higher percentage of no drinks per week as compared to the intramural sport participants, and intramural sport participants had a higher percentage of 11 or more drinks per week as compared to non-intramural sport participants.
  - c) There were no significant differences in the frequency of alcohol use between intramural and non-intramural sport participants. However, seventy-five percent (75%) of the intramural sport participants reported to

be current alcohol users as compared to 66.52% of the non-intramural sport participants.

2) There were no significant differences in the frequency of other drug use between intramural and non-intramural sport participants.

- a) There was no significant difference in the frequency of cigarette use between intramural and non-intramural sport participants. Twenty-one percent (21.51%) of the non-intramural sport participants and 16.04% of the intramural sport participants reported to be current cigarette users.
- b) There was no significant difference in the frequency of marijuana use between intramural and non-intramural sport participants. Nineteen percent (19.07%) of the non-intramural sport participants and 18.28% of the intramural sport participants reported to be current marijuana users.
- c) There was no significant difference in the frequency of inhalant use between intramural and non-intramural sport participants. Almost 90% of the intramural and non-intramural sport participants reported never using inhalants.
- d) There was no significant difference in the frequency of cocaine use between intramural and non-intramural sport participants. More than 90% of the intramural and non-intramural sport participants reported never using cocaine.

- 3) There was no difference in the percentage of reasons for alcohol and other drug use between intramural and non-intramural sport participants. To have fun, relieve other stress, and ease social interactions were the top 3 reasons for alcohol and other drug use for the intramural and non-intramural sport participants.
- 4) There was a significant difference in reported life satisfaction between intramural and non-intramural sport participants. Intramural sport participants reported a significantly higher life satisfaction as compared to non-intramural sport participants
- 5) There was no consistent relationship between alcohol and other drug use and life satisfaction among intramural sport participants.
  - a) There was no significant difference in the relationship between binge drinking, average number of drinks per week, and frequency of alcohol consumption and life satisfaction among intramural sport participants.
  - b) There was a significant difference in the relationship of cigarette use and life satisfaction among intramural sport participants. Intramural sport participants who had never used cigarettes had a higher life satisfaction as compared to those who were current users of cigarettes or those who had used cigarettes but not in the past 30 days.
  - c) There was no significant difference in the relationship of marijuana and inhalant use and life satisfaction among intramural sport participants.
  - d) There was a significant difference in the relationship of cocaine use and life satisfaction among intramural sport participants. Intramural sport participants who had never used cocaine had a significantly higher life

satisfaction as compared to those who were current users of cocaine or those who had used but not in the past 30 days.

### Conclusions

Based on the findings of this study, the following conclusions were made:

1. Intramural sport participation did influence binge drinking and weekly consumption when compared to non-intramural sport participants. Intramural sport participants reported a higher frequency of binge drinking episodes and a higher weekly consumption of alcohol.
2. Intramural sport participation did not significantly influence the use of other drugs. Intramural sport participants were less likely to use other drugs, but the difference was not significant compared to non-intramural sport participants.
3. Intramural sport participation did influence the perception of life satisfaction. Intramural sport participants reported a higher life satisfaction compared to non-intramural sport participants.
4. Intramural sport participants who binge drank at least once and consumed more than 5 drinks per week showed higher scores of life satisfaction compared to those who didn't binge drink at all and consumed less than 5 drinks per week, but the difference was not significant.
5. Intramural sport participants who never used cigarettes or cocaine reported a significantly higher life satisfaction compared to current users of the substances.
6. Intramural sport participants who never used marijuana or inhalants reported a higher life satisfaction compared to current users of the substances, but the difference was not significant.



### Implications

Based on the findings of this study, the following implications are proposed:

1. The significance of the association between intramural sport participation and the occurrence of binge drinking and weekly consumption of alcohol in this study needs to be considered in developing and targeting alcohol education programs for college students. Students who participate in intramural sports are part of the college campus environment, and need to be educated about responsible drinking behavior. Teachers in classes on campus may wish to include guest speakers such as police officers and alcohol and other drug specialists to come to their classes and speak about the effects of alcohol and other drugs. Teachers may also use classes to discuss serious situations concerning alcohol and other drug use.
2. Recreational sport professionals may use the results to help promote alcohol free gatherings after intramural sport activities. In addition, they could promote intramural sports as a healthy alternative to alcohol use. The university has a wide array of recreational facilities and programs on campus. These activities have the potential of encouraging students to participate without the use of alcohol.
3. Health education professionals may use the results of the study to educate students' in their college about the extent of alcohol and other drug use among students in the health related fields. The courses in this study were courses that were required for students entering the health education field or recommended courses for students in exercise science. If the students in the health related field are going to be leaders in the health profession, they need to be properly educated and responsible in educating others about the effects of alcohol and other drugs.

### Recommendations

The researcher recommends that more research is conducted to further examine the extent of 1) alcohol and other drug use among intramural sport participants, 2) life satisfaction among intramural sport participants, and 3) the relationship of alcohol and drug use and life satisfaction among intramural sport participants. The following recommendations are suggested for future research:

1. Strengthen this study with random sampling techniques.
2. A replication of this study using other colleges and/or universities to further examine the relationship between sport participation and alcohol and other drug use.
3. Further examine the extent of alcohol and other drug use among recreational sport participants by expanding the definition of recreational sports that would include intramural and informal sports to include club sports and fitness classes.
4. Further examine the extent of alcohol and other drug use of team sports vs. individual sports. Do students in intramural team sports consume more alcohol and binge drink more than those involved in non-team or individual sports?
5. Further examine the extent of alcohol use of off-season vs. in season. Do students involved in intramural sports drink more heavily during the off season of their sport as compared to drinking during the playing season?
6. Conduct a longitudinal study tracking the recreational sports participation of freshmen from the end of their second semester to the end of their senior year. During this time, the researcher could examine their alcohol and other drug use and life satisfaction to detect any changes over time while at the institution.

7. Conduct an ethnographic study to include focus groups to further examine the reasons and factors affecting alcohol and other drug use among intramural sport participants.

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APPENDIX A  
SURVEY INSTRUMENT  
CORE ALCOHOL AND DRUG USE AND  
LIFE SATISFACTION SURVEY

### Alcohol and Other Drug Use and Life Satisfaction Survey

Please put a check mark next to your answer ☐ ☐. Choose only one answer for each question.

1. What is your current Class Standing?

☐ Freshman (1<sup>st</sup> year)  
☐ Sophomore (2<sup>nd</sup> year)  
☐ Junior (3<sup>rd</sup> year)  
☐ Senior (4<sup>th</sup> year)  
☐ Fifth year or beyond

2. What is your Age?

☐ 18  
☐ 19  
☐ 20  
☐ 21  
☐ 22  
☐ Other

3. What is your Ethnic Origin?

☐ American Indian/Alaskan Native  
☐ Asian/Pacific Islander  
☐ Black (Non-Hispanic)  
☐ Hispanic  
☐ White (Non-Hispanic)  
☐ Other ethnicity not listed

4. What is your Gender?

☐ Male  
☐ Female

5. Where do you currently live?

☐ House/apartment etc.  
☐ Residence Hall  
☐ Approved Housing  
☐ Fraternity/Sorority  
☐ Other

6. What is your approximate GPA?

☐ 4.00-3.51  
☐ 3.50 - 3.01  
☐ 3.00-2.51  
☐ 2.50-2.01  
☐ Below 2.00

Please Turn The Page Over ➡

7. Are you a member of a fraternity or sorority?
- ☐ Yes  
☐ No
8. Think back over the last two weeks. How many times have you had 5 or more drinks at a sitting?
- (A drink is a bottle/can of beer, a glass of wine, a wine cooler, a shot of liquor, or a mixed drink).
- ☐ None  
☐ Once  
☐ Twice  
☐ 3 to 5 times  
☐ 6 to 9 times  
☐ 10 or more times
9. What is the average number of drinks you consume in a week?
- ☐ None  
☐ 1 to 4  
☐ 5 to 10  
☐ 11 or more
10. Within the past academic year, have you participated or are currently participating in intramural sports?
- Intramural Sports - Structured leagues and/or tournaments requiring design and external leadership. Examples include collegiate intramural softball, basketball, football, tennis, etc. and community sponsored leagues such as softball, tennis, soccer, etc., or commercial leagues such as bowling, racquetball, tennis, etc.
- ☐ Yes  
☐ No
11. If you responded yes to question 10, please check the appropriate answer.  
 If you responded no to question 10, then go to question 12.
- ☐ 1 hour or less per month  
☐ 2 to 3 hours per month  
☐ 1 hour per week  
☐ 2 to 3 hours per week  
☐ 4 to 5 hours per week  
☐ More than 5 hours per week

Please Turn The Page Over ➡

12. How often (if ever) have you used any of the drugs listed below?  
Do not include anything you used under a doctor's orders.

	Never	Used, but not in past 12 months	Used, but not in past 30 days	Used in past 30 days
a. Alcohol (beer, wine, hard liquor)	_____	_____	_____	_____
b. Amphetamines (prescription-type speed, not OTC*)	_____	_____	_____	_____
c. Methamphetamines (X, MDMA, Crystal Meth, etc.)	_____	_____	_____	_____
d. Anabolic Steroids	_____	_____	_____	_____
e. Crack cocaine (rock)	_____	_____	_____	_____
f. Other cocaine (powder, freebase)	_____	_____	_____	_____
g. LSD (bottle or liquid)	_____	_____	_____	_____
h. Other hallucinogens (mushrooms, mescaline, etc.)	_____	_____	_____	_____
i. OTC stimulants (ephedrine, etc.)	_____	_____	_____	_____
j. Inhalants (whip-its, glue, etc.)	_____	_____	_____	_____
k. Marijuana (pot, hash)	_____	_____	_____	_____
l. Cigarettes	_____	_____	_____	_____
m. Other tobacco products (dip, chew)	_____	_____	_____	_____
n. Heroin	_____	_____	_____	_____
o. Other opiates (morphine, Percodan, Demoral, etc.)	_____	_____	_____	_____
p. Illegal drugs not listed	_____	_____	_____	_____

Please Turn The Page Over ➡



13. Please indicate how often you have experienced the following due to your drinking and drug use during the last year?

	Never	Once	Twice	3-5times	6-9times	10+ times
a. Had a hangover	_____	_____	_____	_____	_____	_____
b. Performed poorly on a test or important project	_____	_____	_____	_____	_____	_____
c. Been in trouble with Police, residence hall, or Or college authorities	_____	_____	_____	_____	_____	_____
d. Damaged property, pulled fire alarm, etc.	_____	_____	_____	_____	_____	_____
e. Got into a fight or argument	_____	_____	_____	_____	_____	_____
f. Vomited	_____	_____	_____	_____	_____	_____
g. Driven a car while under the influence	_____	_____	_____	_____	_____	_____
h. Missed a class	_____	_____	_____	_____	_____	_____
i. Been criticized by someone I know	_____	_____	_____	_____	_____	_____
j. Thought I might have a drinking or other drug problem	_____	_____	_____	_____	_____	_____
k. Had a memory loss (blackout)	_____	_____	_____	_____	_____	_____
l. Done something I later Regretted	_____	_____	_____	_____	_____	_____
m. Been arrested for DUI/DWI	_____	_____	_____	_____	_____	_____
n. Have been taken advantage of sexually	_____	_____	_____	_____	_____	_____
o. Have taken advantage of another sexually	_____	_____	_____	_____	_____	_____
p. Tried unsuccessfully to stop using	_____	_____	_____	_____	_____	_____
q. Been hurt or injured	_____	_____	_____	_____	_____	_____
r. Had unexpected or unplanned sex	_____	_____	_____	_____	_____	_____
s. Had unprotected sex	_____	_____	_____	_____	_____	_____
t. Required medical attention for an overdose	_____	_____	_____	_____	_____	_____
u. Argued with friends	_____	_____	_____	_____	_____	_____
v. Fell behind in academic work	_____	_____	_____	_____	_____	_____

Please Turn The Page Over ➡

14. Please indicate your reasons for using alcohol or other drugs (Mark no if not applicable to you).

		Yes	No
a.	Relieve academic stress	_____	_____
b.	Relieve other stress/relax	_____	_____
c.	To have fun	_____	_____
d.	To ease social interaction	_____	_____
e.	To get high or drunk	_____	_____
f.	Spiritual or religious reason	_____	_____
g.	Enhance sex	_____	_____
h.	To get away from problems & troubles	_____	_____
i.	To fit in with friends	_____	_____

15. Based on what you have heard or experienced, to what extent is each of the following a problem for students at the university?

		Not a problem	Minor problem	Moderate problem	Major problem
a.	Physical assaults	_____	_____	_____	_____
b.	Drug Abuse	_____	_____	_____	_____
c.	Racial tension or conflict	_____	_____	_____	_____
d.	Suicide	_____	_____	_____	_____
e.	Sexual assault or rape	_____	_____	_____	_____
f.	Heavy alcohol use	_____	_____	_____	_____

16. How important is it for you to participate in the following activities at the university?

		Very important	Important	Somewhat Important	Not at all important
a.	Athletics/ Intramurals	_____	_____	_____	_____
b.	Arts	_____	_____	_____	_____
c.	Academic work	_____	_____	_____	_____
d.	Drinking	_____	_____	_____	_____
e.	Religion	_____	_____	_____	_____
f.	Fraternity or Sorority life	_____	_____	_____	_____
g.	Political activism	_____	_____	_____	_____
h.	Parties	_____	_____	_____	_____
i.	Community service	_____	_____	_____	_____
j.	Student government	_____	_____	_____	_____

Please Turn The Page Over ➡

## Satisfaction With Life Scale

Instructions: Below are five statements with which you may agree or disagree. Using the 1 to 7 scale below, indicate your agreement with each item by circling the appropriate number for each item listed below. Please be open and honest in your response. The 7 point scale is: 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, and 7 = strongly agree.

<u>Item</u>	Strongly Agree-----Strongly Disagree						
1. In most ways my life is close to ideal.	7	6	5	4	3	2	1
2. The conditions of my life are excellent.	7	6	5	4	3	2	1
3. I am satisfied with my life.	7	6	5	4	3	2	1
4. So far I have gotten the important things I want in life.	7	6	5	4	3	2	1
5. If I could live my life over, I would change almost nothing.	7	6	5	4	3	2	1

Thank you!!!!

APPENDIX B  
UNIVERSITY OF FLORIDA  
HUMAN SUBJECTS APPROVAL



# UNIVERSITY OF FLORIDA

## Institutional Review Board

98A Psychology Bldg.  
PO Box 112250  
Gainesville, FL 32611-2250  
Phone: (352) 392-0433  
Fax: (352) 392-9234  
E-mail: [irb2@ufl.edu](mailto:irb2@ufl.edu)  
<http://web.ortge.ufl.edu/irb/irb02>

DATE: 3-Feb-2000

TO: Mr. Robert Lindsey  
POB 118120  
Campus

FROM: C. Michael Levy, Chair   
University of Florida  
Institutional Review Board

SUBJECT: Approval of Protocol # 2000 - 62

TITLE: Alcohol and Other Drug Use and Life Satisfaction among Intramural Sport Participants

FUNDING: Unfunded

I am pleased to advise you that the University of Florida Institutional Review Board has recommended approval of this protocol. Based on its review, the UFIRB determined that this research presents no more than minimal risk to participants, and based on 45 CFR 46.117(c), authorizes you to administer the informed consent process as specified in the attached description.

If you wish to make any changes to this protocol, including the need to increase the number of participants authorized, you must disclose your plans before you implement them so that the Board can assess their impact on your protocol. In addition, you must report to the Board any unexpected complications that affect your participants.

If you have not completed this protocol by 1-Feb-2001, please telephone our office (392-0433), and we will discuss the renewal process with you.

It is important that you keep your Department Chair informed about the status of this research protocol.

CML:ek/js

cc: Dr. W. William Chen

APPENDIX C  
LETTER TO TEACHERS

December 27, 1999

Name  
UF address  
Gainesville, Fl 32611

Dear \_\_\_\_\_ :

I am a graduate student in the Department of Health Science Education at the University of Florida, pursuing a Ph.D degree in Health Behavior. Currently, I am working on my dissertation entitled "Alcohol and Other Drug Use and Life Satisfaction among Intramural Sport Participants."

Enclosed is a survey instrument I will be using and the instructions. I am planning to survey college students who do and do not participate in intramural. The objective of this survey is to assess the relationship between alcohol and other drug use and life satisfaction among this population.

I would greatly appreciate the opportunity to use your classes as a research site to conduct this study. I would like to complete the actual data collection in February and March of 2000. I am open to suggestions as to how this data can be collected with the least disruption of the students and your schedule. Ideally, 30 minutes with the classes would allow me the time to give instructions, administer consent forms, and administer the survey. This would give students the opportunity to ask questions in my presence. If this is not feasible, the surveys could be administered in an alternative fashion.

I will contact you by phone during the week of January 18, 2000 to discuss this matter. Should you have any questions, please feel free to contact me at (352) 392-0583 ext. 307. I thank you for your consideration in this matter.

Sincerely,

Robert Lindsey  
Ph.D Candidate  
Department of Health Science Education  
University of Florida

APPENDIX D  
SURVEY LETTER TO STUDENTS



## Alcohol and Other Drug Use and Life Satisfaction Survey

Dear Participant:

You are invited to participate in a research study. The purpose of this study is to examine the relationship of alcohol and other drug use and life satisfaction among intramural sports. Results from this study will serve to provide information to health educators and recreation professionals that will assist in developing strategies that will positively affect your recreational participation as well as help plan future alcohol and drug use intervention programs.

This questionnaire will take appropriately 15 to 20 minutes of your time to complete. The information in this study will be kept confidential. Your survey responses will be kept strictly confidential, no name is required on the survey form. Your participation in this study will be voluntary. If you decide not to participate, you may withdraw at any time. If you have any questions about the study, please feel free to contact.

Robert Lindsey  
Department of Health Science Education  
Room 19  
University of Florida  
Gainesville, FL 32611  
(352) 392-0583 ext. 307  
Email: [rl@grove.ufl.edu](mailto:rl@grove.ufl.edu)

If you have any questions about your rights as a subject in this study, you may contact the office for Human Subjects Committee at University of Florida Institutional Review Board, P. O. Box 112250, Gainesville, FL 32611-2250, Telephone: (352) 392-0433

APPENDIX E  
INFORMED CONSENT SCRIPT

## **Informed Consent Script**

**Project Title:** Alcohol and Other Drug Use and Life Satisfaction among Intramural Sport Participants

Please listen carefully to this consent information before you decide to participate in this study.

Good morning, I'm Robert Lindsey and I am a graduate student in the Department of Health Science Education.

You will be asked to complete a survey that should not take more than thirty minutes to complete.

The purpose of this study will be to 1) Compare the frequency, quantity, and reasons for alcohol and other drug use between intramural and non-intramural sport participants, 2) Compare the perceptions of reported life satisfaction between intramural and non-intramural sport participants, and 3) Examine the relationship between alcohol and other drug usage and perceptions of life satisfaction among intramural sport participants.

There are no risks associated with answering this survey and there will be no compensation or other direct benefit to you for participation.

The survey is anonymous and there is no way your name can be connected to your answers.

Your participation in this study is completely voluntary. You do not have to answer any question you don't wish to answer and there is no penalty for not participating. Participation or non-participation will not affect your grade in this class. If you do not wish to participate, please sit quietly at your desk while the others complete the survey. You have the right to withdraw from the study at anytime.

If you have any questions about this research protocol, you can contact Robert Lindsey at 392-0583 ext. 307, or My Dissertation Supervisor, Dr. W. William Chen, at (352) 392-0583 ext. 284. Any questions or concerns about your rights as a research participant rights may be directed to the UFIRB office, University of Florida, Box 112250, Gainesville, FL 32611; ph (352) 392-0433.

APPENDIX F  
THANK YOU LETTER TO TEACHERS

February 21, 2000

Name

Address

Gainesville, FL 32611

Dear Teacher:

I would like to thank you for your help and support in assisting me to meet with the students in your classroom for the completion of my dissertation questionnaire. Your assistance was quite helpful in my data collection process.

Again, thank you very much for your cooperation. I wish you the best of luck to you in your graduate studies here at the University of Florida. If there is anything that I may do to help you, please feel free to contact me at (352) 379-1255 or at [rl@grove.ufl.edu](mailto:rl@grove.ufl.edu)

Sincerely,

Robert Lindsey

Ph.D Candidate

Department of Health Science Education

University of Florida

## BIOGRAPHICAL SKETCH

Robert Lindsey was born September 27, 1970, in St. Louis, Missouri. In 1992, he received his B. A. degree in mathematics from Washington University in St. Louis, MO. In 1992, Robert received the Washington University "W" Club Distinguished Athlete of the Year Award and was an NCAA All-American Performer in the 800m and 1500m. Upon graduation, Robert taught mathematics and coached track and field/cross country at the high school level. Robert then went to the University of Missouri-Columbia, where he received his master's degree in exercise science with an emphasis in sport psychology in August, 1996.

In 1997, Robert transferred to the Dept. of Health Science Education from the Dept. of Exercise and Sport Sciences at the University of Florida. As a Ph.D. student in Health Education, Robert was inducted into Eta Sigma Gamma Student Organization and served as a graduate assistant for Project WISE-UP, a program utilized to assist disadvantaged children to remain in school and drug free. In addition, Robert taught "Math for Technicians in Health Related Programs" as an adjunct instructor at Santa Fe Community College. Robert also received the prestigious McKnight Fellowship, a program sponsored by the McKnight Foundation to assist African American graduate students in pursuing terminal degrees. His professional interests include stress management, program evaluation, survey design, physical fitness and sport psychology. In August, 2000, Robert received his Ph.D in health and human performance from the University of Florida with an emphasis in health behavior.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy in Health and Human Performance.



W. William Chen, Chair  
Professor of Health Science Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy in Health and Human Performance.



Jill Varnes  
Professor of Health Science Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy in Health and Human Performance.



Milledge Murphey  
Associate Professor of Exercise and Sport Sciences

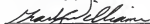
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy in Health and Human Performance.



David Miller  
Professor of Educational Psychology

This dissertation was submitted to the Graduate Faculty of the College of Health and Human Performance and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.)

August, 2000



Dean, College of Health and Human Performance

\_\_\_\_\_  
Dean, Graduate School



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